A Review of the Hardware, Iron and Metal Trades.

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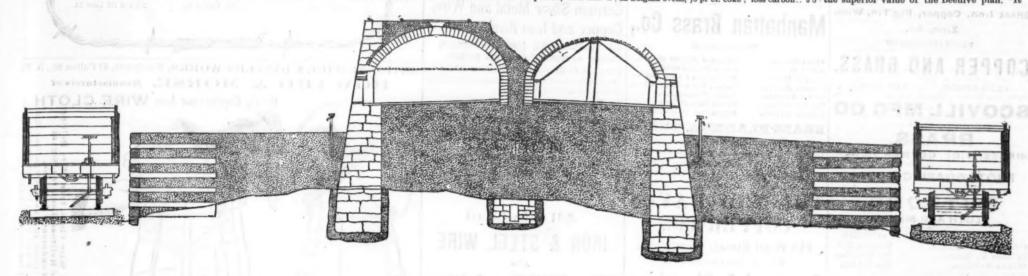
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New York, Thursday, June 26, 1879.

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Beelive Coke Ovens.

The increasing demand for coke for industrial and domestic purposes, invests the datals and economies of its manufacture with much importance, especially for the row and steel industries. In The Iron Age for May 1, 1879, we printed an admirable case on the merits of the two prominent types of ovens used in this country. The author, Mr. John Fulton, of the Cambria fron Co., showed in a lucid and comprehensive manner that, for blast furnace use, the product of the beelive oven, possesses an american that, for blast furnace use, the product of the beelive oven possesses an american manner that, for blast furnace use, the product of the beelive oven, as compared with its rival, been for opinion of 9-inch fire brick (9x4/x21/5; ovens is fail of the product of the beelive oven, as compared with its rival, been for opinion and the product of the beelive oven, as compared with its rival, and the product of the



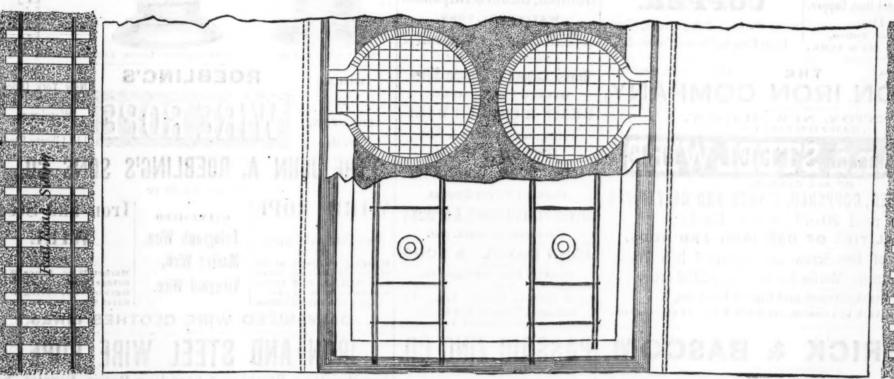




Fig. 1.-Section and Plan.

Solvenia Lazeret Co. the Belgian oven, is cheaper in first cost of construction, while, on the other hand, the annual expense of repairs is greater. Nevertheless, so far as present developments have gone and current practice shows, the beelive oven is evidently the apparatus for the manufacture of blast furnace coke, and the following description, with the accompanying illustrations, of an approved modern plant of beshive ovens, which we take from the report of the Bureau of Industrial Statistics of the State of Pennsylvania for 1877-78, will be found of interest. The paper was of the State of Pennsylvania for 1977-75, will be found of interest. The paper was prepared by Mr. John Fulton. It gives the following description of a bank of 100 beehive ovens constructed at Bennington shaft colliery, for the purpose of making coke to supply the five blast furnaces of the Cambria Iron Co.

These overs are legated a short distance

In the covens are located a short distance east of the eastern portal of the Allegheny tunnel of the Pennsylvania Railroad. The bank of oversia 750 feet long, with ample and railroad siding on eastern from the Miller seam.

The coal is received from the Miller seam.

(B) of the Bennington shaft mine. A large dump has been erected, in connection with the shaft tower of the mine, easter of the mine of making of the per ton by these methods of the mine of water of the mine of water of the mine of water of the mine of the mine of water of the work of construction of the work of the order of the work of construction of the work of the order of the most wateful of coal. The water for the water of the wat

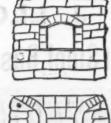


Fig. 2.—Oven Door



Fig. 3.—Charging Larrie.



Fig. 4.-Section of Door.

seems to be pretty clearly made out that this is the true fundamental principle of coking. In this connection it may be asked why camnot coal be coked with as little loss of carbon in the Beehive as in the Belgian or Appolt plan of ovens. The correct reply to this would disclose the true line of progress demanded in Beehive ovens—the production of the best possible furnace coke with the least possible waste of carbon.

It is evident that a great waste of Leat is induced in the present plan of Beehive ovens.

induced in the present plan of Beehive ovens.
The only surprise is that the system is not The only surprise is that the system is not much more wasteful. The heated products of coking are driven directly out of the oven through the charging holes into the open air. The Belgians, on the other hand, are enveloped in flues and ports, utilizing as much as possible the heat evolved in coking. Their rapid system of discharging the coke retards the work of the oven very little, while the Beehive, quenching its coke in oven, is much cooled by the operation, besides a loss of time in drawing the coke of two to three bours. Yet under all these disadvantages the Beehive ovens will make coke of a better quality than the Belgian er Appolt ovens.

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yses of the value of the methods should evolve the merits of the simple plan of the Beehive ovens of fifty years ago. There is no doubt that particular varieties of coking coals require, special treatment, but underneath this lies the important consideration, whether it is a correct business principle to attempt the coking of a coal that requires so complicated appliances, and which, after all, produces an inferior coke. It would appear produces an inferior coke. It would appear that in the State of Pennsylvania, possess-ing such ample supplies of good coals for making coke, an intelligent selection of such coals is the first and important consideration in coking operation, rather than the at-tempt, however ingenious, of designing ovens to make inferior coke from coals normally unfit for this special purpose.

### American Trade in Russia.

The rapid growth of our manufacturing industries has obliged us to seek an outlet in foreign countries for the daily increasing foreign countries for the daily increasing excess of our production over our consumption. We have already obtained a firm footing in many markets, from which, only recently, we were entirely excluded. But in order to maintain and develop the advantage gained, it is necessary that we should have a thorough knowledge of the re-quirements of the markets to which we send our goods, and all information on this point is valuable. We think, therefore, that no apology is needed for the extracts we give below, from a recent report of Mr. W. H. Edwards, Consul-General at St. Petersburg,

The increased receipts from railways during the year 1877 over the preceding year, is doubtless due in a great measure to the increased traffic caused by the trans-

portation of troops and army supplies.

The extension of railways in Russia, be-tween the year 1860 and 1878, has had the effect of bringing much larger quantities of produce to the ports, and more rapidly, and has thus increased the producing as well as the purchasing powers of the nation. The increased capital accumulated from transactions thus brought about has, to a great extent, been reinvested in the construction and extension of factories and machinery to meet the increasing demand of the home market and the expanding demand of the Eastern market.

The foremen of the workshops, mills and manufactories are to a great extent supplied by England and Germany, which fact greatly aids the manufacturers of those countries in maintaining the control of these

countries in maintaining the control of these markets in the several classes of machinery. On the 6th day of November, 1878, the Ministry of Ways and Communication issued an order to the inspectors of railways, directing them to notify all railway companies over whose roads are transported mineral combustibles and other weighable merchandise amounting to 500,000 pounds per year, to establish scales of sufficient capacity for the weighing of laden cars. Fairbanks, Falcot's and Howe's scales will be used.

In the mountainous regions of the Cau-casus, in the neighborhood of the port of Baku on the Caspian Sea, petroleum is ex-tensively found and is believed to exist in

As the Caucasan provinces are the only known regions from which our producers have heretofore feared competition, I have deemed it proper to make as thorough an investigation of the subject as my oppor-tunities would permit, and as a result of my inquiries from trustworthy sources, I find that the history of the extraction of mineral oil in the Caucasus may be divided into three distinct periods. From 1859 wntil 1872 this branch of production continued a monopoly in the hands of a single company or individual, and the amount extracted did not perceptibly increase. From 1872 to 1877 the extraction was free from the rule of the extraction was free from the rule of the case the extraction was free from the rule of the monoply, but subject to a government tax. During this period the extraction gradually but slowly increased. Since January 1, 1877, this industry has been entirely free, and the production has been favored by a duty of 7 cents a gallon on American petroleum. American petroleum has not, however, ceased to make progress in this market, and is now in greater demand at \$1.15 per pood (36 lbs.) than the home production at 90 cents per pood. The cause of this progress may be assigned entirely to the quality of the American oil, which is a far superior to the Russian oil for illuminating purposes. The Russian oil has a pungent smell, and smokes to such an extent as to render its use objectionable.

One of the most serious difficulties met with by the explorers of petroleum in the Caucasus, and a difficulty which has hereto-

33 per cent. That is, a bank of 200 ovens with flues would produce as much coke as a bank of 300 ovens without flues. In the erection of banks of ovens of Beehives with flues, it is contemplated to introduce an elliptical fine between the backs of ovens, with ports to receive the heated products.

Mr. M. P. Overholt, of Mr. Pleasant, Pennsylvania, in the Connellsville coke region, also submitted an improvement to compensate for the loss of time in the quenching of coke and drawing involved in the Beehive ovens. He has introduced a connecting flue between the ovens regulated by a damper, so that, on drawing a charge of coke, the ports into adjoining ovens can be opened, and a supply of their heat obtained to assist the drawn oven in regaining its heat. This application would be important in ovens where coals are coked possessing a small volume of volatile matter.

The cost of Beehive ovens, in favorable situations, should not exceed \$200 each; but, where deep embankments are required, a largely increased outlay will be demanded. The flued Beehive oven of Mr. McFadyen would probably cost \$50 more than common unflaed ovens.

It is very remarkakle that, after long-continued efforts in elaborating complicated coke oven appliances, the ultimate analyses of the value of the methods should evolve the merits of the simple plan of the Beehive ovens of fifty years ago. There is no doubt that particular varieties of coking

markets.

The Russian market may in time be closed to the importation of American oil by a well-directed protective duty; but, in my opinion, there is at present nothing to lead to the conclusion reached by some, that the consumption of petroleum in this country cannot keep pace with the production. Mechanical skill has accomplished so much, by the extension of railways, in developing, cementing and binding the distant territories of our own country, and railways play ries of our own country, and railways play so great a part in modern warfare, that it seems to me hazardous to attempt to scan the future development of the mineral re-sources of the Caucasus, or the future march of improvement in this vast Empire, whose security depends so much upon the facility of its internal communications.

American sewing machines have an ex-tensive sale in this country, but at the present time are meeting with a strong competi-tion from the hand machine of German manufacture. The growing popularity of the German machine is said to be due to the widespread belief that it is injurious to the health to work the American foot machine. By the imposition of protective duties on

health to work the American foot machine. By the imposition of protective duties on foreign manufactures the government has extended a judicious encouragement to home capital, in order to enable the domestic in dustries to become firmly established and profitable.

The law of Nov. 16, 1876, required all sustoms duties on and after Jan. 1, 1877, to be paid in gold, and as these duties are levied by weight and the rate determined according to the quality and value of the goods, the system has virtually closed this market to all foreign manufactured commodities, except certain luxuries, machinery for the construction and extension of railmodities, except certain luxuries, machinery for the construction and extension of railways, mills, factories and workshops. The various manufacturing industries of the country have thus been stimulated. Agricultural machinery being free from duty was not affected by this law, and the low tariff on machinery in general has been a great help to the manufacturers, for the capacity of the home machine shops is not sufficient to supply the demand for any class of machinery.

The present protective policy of the gov-

of machinery.

The present protective policy of the government, which has given home manufacturers the monopoly of the home market, is not limited in its protecting supervision to the mere regulation of customs tariffs, but extends an able direction over internal ways of communication which is gradually bracing all industries and making them prosperous. The present external debt of the country must not be taken as a just measure of the condition of its industries.

Within the last few years there has been an astonishing increase of the internal trade of the Empire, due not more to the enormous increase of the facilities for freight at d traffic and the growing prosperity of the lower classes, than to the able direction by the government of the ways of communica-tion. The railways, cauals, &c., are under the immediate control and management of the government, consequently there are no strikes or disputes between the companies and their employees; no derangement of commerce by organized combinations; no unjust classification of goods; no excessive great quantities. The question as to whether future energy and enterprise will develop its extraction to such an extent as to prevent the further importation of American petroleum to this country, and to meet our producers in the markets of Europe, is one which at least merits the consideration of our home trade.

As the Caucasian provinces are the only known regions from which our producers have heretofore feared competition, I have community. community.

Among the important measures already proposed looking to the advancement of the agricultural and industrial interests, is the quiries from trustworthy sources, I find at the history of the extraction of mineral further development of the internal means of communication and the introductiod of

improved machinery of all kinds.

The insufficiency of the present means and facilities for manufacturing is acknow!edged. The English manufacturers study this market with great diligence. The fol-lowing figures tell their own story:

lowing figures tell their own story:
Russia imported from England during the year 1877 hardware and cutlery, \$253,641; steam engines and mill machinery, \$452,057; other machinery, \$1,714,100. During the year 1878 Russia imported from England hardware and cutlery, 440,404; steam engines and mill machinery, \$312,641; other machinery, \$3,948,899. As the increase of production of cotton goods in the United States, due to improved methods, was fron 1865 to 1875 100 per cent., and in England, during the same period, only 23 per cent., I can see no good reason why

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For each additional constituent of usual oc-

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currence. 5.0 cr the per cent. of Carbonate of Lime, and insoluble Silicious Matter is a Limestone. 5.0 cr each additional constituent. 5.0 or the per cent. of Water, Volatile Combustible Matter, fixed Carbon, and Ash in Coal. 12.5 time matter, niced carbon, and asn in Coal. 13.50 For determining the constituents of a Clay, Slag, loke, or of an Asn in Coal the charges will corresond with those for the constituents of an ore. For a written opinion or letter of instruction the harge must necessarily depend upon circumstances.

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FRANCIS WISTER, 230 South Third Street, Rest Cabe for Furnass and Foundry Ves. chasers, of which they have made a special study, and to which they can conform with advantage and profit by reason of the con-

advantage and profit by reason of the convenience of the market, and direct, regular and rapid communications. The manufacturers of those countries are greatly assisted in this market by reason of their having furnished many of the foremen for the workshops, mills and manufactories.

The climate, soil and other conditions of this empire, demand the same class of machinery and labor-saving machines that exercise so much influence in the development of our own country. The farms, or estates, are large, and labor is not so cheap but what the owners would find it to their advantage to buy heavy and expensive machinery. The country has every natural gift in abundance, and there is no prejudice among the peasantry against the introduction of a commercial port in St. Petersburg, at a point where the ship, the locomotive

among the peasantry against the introduction of labor-saving implements.

The nation is, however, uninstructed in the scientific principles of agriculture, and the peasants possess no particular facilities change of goods.

The government has made imp for seizing at once what is valuable in any machine. The extension of railways, the construction of factories, the personal efforts of the landed proprietors, in presenting opportunities of comparing the new with the old methods of culture, concur in making it credible that the Russians are daily becoming more fit to determine the proportion of intrinsic merit between the no-settled system of any sort in vogue here, and the system founded upon principle and well settled upon positive evidence.

I am convinced that the knowledge and

I am convinced that the knowledge and ractical use of machine work may now be communicated by proper methods. The solution of the question as to how long Eng-land and Germany will maintain their control of this market, by the mere exercise of diligence in studying and supplying the special tastes and prejudices of these people, depends entirely upon the action of the American manufacturer.

I do not consider it my province to in-struct manufacturers in the important duty of selecting agents, but I think it would pay them well to guard against blindly throwing their business into the hands of foreigners who are also the representatives of foreign

ompetitors.

Energetic and efficient resident and traveling agents are the means by which a profita-ble and permanent trade can be established in ble and permanent trade can be established in this country. Agents selected not from the ranks of those who have been residents of the empire, and who, in a measure, partake of the tastes and preferences of the people, but fresh from our own worshops, mills and factories, possessing the necessary mechan-ical skill and knowledge to explain and de-monstrate the value of the articles exhibited. monstrate the value of the articles exhibited. The machines, implements and tools will, doubtless, in a majority of cases, speak for themselves, but it will greatly facilitate the work of anyone coming to this empire on such a mission, to possess some knowledge of the German language. The distributions of the company of edge of the German language. The dis-tribution of journals, circulars, catalogues, advertsements and the establishment of sample and sale-depots, doubtless goes far toward the dissemination of knowledge and the extension of trade with most counthe actions of trade with most countries; but this country has not yet learned the art of advertising, and the only means of disseminating information is by actually exhibiting the superior worth of the implements. By the judicious use of the means ments. By the judicious use of the means above stated our exporters will find in this country a ready and profitable market, and I see no good reason why the crooked stick or antique plow should not entirely disappear from the rich provinces of Russia, provided our manufacturers properly press their claims. If the exporters of American agricultural and other machinery had shown the same energy and perseverance, during agricultural and other machinery had shown the same energy and perseverance, during the past few years, in the exhibition and de-monstration to the people of this country, of the value and practical use of their improved machinery that has been shown by the gun manufacturers of America, the country would be as well stocked with improved tools of husbandry and other American ma-chinery as it is with American arms. The necessity for the introduction of a rational necessity for the introduction of a rational system of agriculture, by the education of the people to the appreciation of the value and importance of using our labor-saving machines, is much greater to-day than was the precisity for the introduction of our im-

the necessity for the introduction of our im-proved fire-arms two years ago. The first step toward supplying a want the acknowledgment of the existence of that want, and those who have made the experi-ment of trying the new no longer hesitate to acknowledge the deficiency of the old

Such reasons as those I have endeavored to explain, lead me to the conclusion that the present is an opportune moment for the American manufacturers to proceed in a systematic way to introduce their implenents and machinery to the purchasers of this country.

St. Petersburg has become the chief point of the foreign maritime trade of Russia, by being connected, by means of enormous sys-tems of canals and water routes, and later on by railways, with the most dis-tant productive territories of the empire, situated along the Volga basin and its tributaries, the Kama, Oka, Schekena, along the Dwina to the White Sea, through the Swir with Onega and Ladoga seas, and by the Neva with the Baltic Sea. The chief Russian water route, the Volga, is united by means of canals with the Baltic Sea, thus directly connecting the interior Russian trade carried on in barges, with the foreign trade carried from the Baltic Sea abroad in seagoing vessels.

The fortunate condition of the situation of hold the city adds greatly to its importance. The sea has very deeply penetrated toward the interior of Russia at this point, making it the nearest point to Moscow, the heart of Russia and the center of all Russian rail-

the south side of the city, are unconn with each other, and have the streets of the city with

tion of a commercial port in St. Petersburg, at a point where the ship, the locomotive and the Volga barge can be brought together

change of goods.

The government has made important grants for the accomplishment of this great enterprise, and the work of constructing a sea canal between Cronstadt and the new port is already under way. The execution of this work has been intrusted to a well-

of this work has been intrusted to a well-known New York dredging company.

The government has given such substantial assistance for the carrying out of these improvements, that it is reasonable to infer that, within three years, St. Petersburg will have a well-appointed commercial port, with docks, warehouses, custom houses, &c., with all the modern appliances for loading and unloading goods, which will, beyond doubt, remove many of the existing losses from which the St. Petersburg trade is now suffering, and will add greatly to the development of its commercial activity.

### Portable Fire Annihilator.

Messrs. W. & B. Douglass, of Middletown, Messrs. W. & B. Douglass, of Middletown, Conn., are manufacturing a new article, recently patented, which they call a fire annihilator. It is intended to supply a wast, long felt, for a means of extinguishing fires in their incipient stages. This apparatus—an illustration of which we give—consists of a powerful double-acting brass force pump, arranged with 3 feet of discharge hose pipe and a suitable nozzle, secured in a covered arranged with 3 feet of discharge hose pipe and a suitable nozzle, secured in a covered pail of galvanized iron. This pail holds about 2 gallons of water or chemical solution. This machine may be kept in any convenient place, and is always ready for us; as its action is positive, and it is not liable to become disabled in any way by long standing or disuse—a thing which not unfrequently happens with many forms of frequently happens of the first f frequently happens with many forms of fro extinguishers dependent for their force



upon chemical action. The pump is very powerful, and is capable of throwing a stream 50 feet or more. No time need be lost in charging the machine, as the reservoir can be replenished by pouring water into it while working, a point of no small advantage. The action of the pump is smooth, and not at all exhausting. The annihilator is handscopply rejuted, and is not The smooth, and not at all exhausting. The annihilator is handsomely painted, and is not unsightly even when kept in a conspicuous place. A portable hand pump is invaluable in case of fire, as it is available at a moment's notice, and can be carried at once to places which are inaccessible to an ordinary hose, except after some minutes' delay. At the beginning of a fire the moments are golden, and a cupful of water is often more valuable than a powerful stream a few minutes later. and a cupful of water is often more valuable than a powerful stream a few minutes later. These pumps can be used for a variety of purposes when it is necessary to throw liquids, as, for example, wasbing carriages, watering plants and shrubbery, applying solutions of various kinds, &c. In fact, pumps of this kind are very generally useful, not only in the store but in the household.

A New Anchor Line Steamer .- The additions to the fleet of European vessels sailing to New York are growing numerous, Russia and the center of all Russian railways.

Notwitstanding the advantages which Nature has offered, the hindrances and losses which the St. Petersburg trade, in its present condition, has to bear on account of the want of a well-constructed commercial port with docks, wharves and warehouses, are beyond computation.

The seagoing vessels come only as far as Cronstract, 20 miles from St. Petersburg; the Volgs barges stop on the Nevs, 10 miles from the sa; the railways are situated on feur teen knots per bour. every new steamer belonging to a class of

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erabch Springs, are located upon the line of this Railroad.
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onles. Communications addressed to the General Manager will receive prompt attention.

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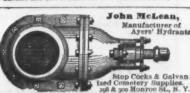
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The Wear of Steel Rails.

Mr. A. M. Wellington, under the direc-tion of Mr. Chas. Latimer, chief engineer, has made an investigation into the compar-ative wear of the various brands of steel ative wear of the various brands of steel rails laid on the Atlantic and Great Western Railroad, which he has published in a recent issue of the Railroad Gazette. The object in view was to determine the following points as accurately as circumstances would permit: The comparative wear of rails of various makes, the probable average life of steel rails, the increase of wear due to grades and curvature, and, finally, the increase of wear due to speed, irregularities of surface, &c. Sections were carefully taken with the aid of a simple apparatus specially adapted for the purpose, and all rails tested were taken out of the track and weighed. Two rails opposite to each other were Two rails opposite to each other were taken out as a rule, both on curves and on tangents, and in some cases four or more. The number of rails tested on curves was 75, on tangents 57, and at points of reversed curvature 8, or 140 in all. Unfortunately the original weights per yard could not be exactly ascertained. Other circumstances, the varying conditions of speed, ballast, use of brakes and of sand which cannot be exactly recognized present full practicion in the actly recorded, prevent full precision in the results, which are of value, however, as close approximations. The following table of averages shows the wear per 10,000,000 tons tonnage (pounds per yard) of steel rails laid on various curves.

Curve.						Outside.					Inside.	Average		
ı de	gree									1.10		0.99	1.04	
3	44		٠.		*	* 1				1.40		1.07	1.23	
F	44								۰	1.66		1.77	1.71	
3/4	44									2.12		1.54	1.83	
	66		٠,					,		3.45		2.56	3.00	
14		*								9.96		3-33	6.64	

The results of Mr. Wellington's investiga T-IRON FENCE WORKS,

Office, No. 21 Water Street,

_	Equa =		1	+ 0.03d2		
Trenton steel-top	Cld. Iron Co C. R. M. Co	Iron Raile: English chair iron (½° curve)	General average	Steel Rails: Ebbw Vale '71-2 Dowlais, '71 C. R. M. Co., '74-5 C. R. M. Co., '76-8	Brand of Rail.	7.19
H 89	÷ w	de UN		5.8.8.1	bars tested.	No of
8,450,000	8,450,000	14,300,000		18,000,000 18,000,000 13,000,000 5,500,000	Average tonnage	5
1.65	0.03	1.73	0.63	Lbs. per yd 1.06 0.93 0.53	Average of rails test- ed on tan- gents.	Comparat Under average
		2.10		Lbs. per yd Lbs. 1.10 1.07 0.65 1.00	Av. of rails on curves equated for tangent wear.	omparative wear per 10,000,0
1.65	1.19	} 1.91	0,92	Lbs. per yd 1.08 1.00 0.59	General average	conditions of wear

•	0.220 = 0	by ose	al Re	1
		r yd Lbs. per yd	Under un- favorable conditions, general average.	denna conta
	A very superior durable iron. Has lasted far better than any other on the road.  These rails have been laid 6% years, and the bars tested are probably the most durable of the fot, worn rails having been removed.	Hard and somewhat brittle.  Moderately hard; few broken or battered.  Comparatively quite soft.	Character of Metal.	

From this table it will appear that, as re-pects loss of weight in service, the C. R. M.

																I.		M.
C. R. M. Co	18;	16-	78													0.27		2.56
14 14	18:	74-	75					ń,						*	e. 16.	0.39		4
English ste	el										1 0	0 0		0		0.89		0.75
Steel top				0 1					0 0	0.1	0.0	0 1		0	0.0	1.73		5
C. R. M. in	on					0		0 1	0 0	0 1		0 0		0		0.81		3
C. L. Co. ir	on					0	0.0							0		1.04		0
English iro	E3			0 1	0 0 0		0 0	0	9.0				. 0	0.1	0 0	4.30		84
Other iron				0 1		0 0						p 1		0		1.35		356
Total iron.			0.0	0.0	12				2 0	0.1			0	0.1		1.50		372
								4	9.			4	ı.	_	6	CT V	ME	Cla

Total from this it appears that the C. R. M. Corails have a much better record than the English rails in this respect also, the relative number of bars broken per mile per year being as 0.34 to 0.75. This difference, however, is somewhat deceptive, owing, first, to the fact that the English rails were punched instead of drilled; and, secondly, to difference in joints, the English having a plain fish-plate, and the C. R. M. Co. steels a combined fish-plate and Dilworth & Porter joint, or the angle fish-plate. Per contra, a very large number of the English rails have failed at the joints which have not been reported as broken rails, and they appear to be very noticeably more liable to split off on the side.

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Sizes, 1½ inch 204, ; 2 inch 254, ; 2½ inch 254 inch 254 inch 254 inch 254 inch 254 inch 254 inch 255 in general with those of iron rails, it is noticeable that, contrary to a general impression, they appear to be much less liable to Lined Hose, address.

EUREKA FIRE HOSE CO., 128 inch 254 inch 255 in general with those of iron rails, it is noticeable that, contrary to a general impression, they appear to be much less liable to break than iron rails, the reported break iron rails, iron and steel-top rails as for oil.

steel. It will also be noticed that the table appears to afford considerable support to the theory that the number of breakages increases with age.

The average wear of all steel rails taken

The average wear of all steel rails taken up on tangents was 0.92 lbs. per yard per 10,000,000 tons duty. Some of the most real liable tests made, however—as, for example, those for which the original weight was exactly known—showed somewhat above I lb. per yard per 10,000,000, which is, therefore, assumed to be the most correct average for all rails (equivalent to 14,000,000 tons for 1-16th inch wear). Under favorable circumstances, or with lots of extra good quality, the wear appears to be but little more than half this. Judging by the views and opinions of several of the road-masters of this road, the safe limit of wear for ordinary steel rails appears to be about ½ inch in hight, or 14.1 lbs. of weight per yard. A committee of the American Society of Civil Engineers estimate the safe wear at only ½ inch in hight, while an official French publication above mentioned, places the allowable wear at a still less limit, or only 0.4 inch for a 60-lb. rail. All these estimates, however, appear to be based upon rails which were not worn out, but which approached more or less closely to the assumed limit of wear, and the estimates all appear to be too small. It is safe to assume the ultimate life of ordinary steel on a tangent at 140,000,000 tons, running up to at least 200,000,000 tons for extra qualities.

As respects the proportion of defective rails now in the track, it may be stated as an average of several counts that about 80 per cent. of the Ebbw Vale and Dowlais steel (average tonnage 18,000,000 tons) are substantially sound and uninjured; about 15 per ceet. more or less injured at joints, and about 5 per cent. split or spotted in the center of the bar. Some lots, however, show a much greater proportion of injured rails. Of the C. R. M. Co. steel of 1874-5 it appears by a count at Venango that 95 per cent. alightly injured but seviceable of center of the bar.

rails. Of the C. R. M. Co. steel of 1874-5 it appears by a count at Venange that 95 per cent. are perfectly sound and uninjured, 6 per cent. slightly injured but serviceable, and 3 per cent. (7 bars) have been removed for defects at joints, none having been removed for other cause. Out of 326 rails of the same brand at Newburg, which have sustained a tennage of about 12,000,000 tons, only five bars show any signs of failure, and none of these are serious. About 10 bars in all have been removed from this lot for breakages or other defects. By Io bars in all have been removed from this lot for breakages or other defects. By another count of 1760 rails of the same brand, at Red House, only 25 rails were found slightly battered (and none of these had grown worse in the past two years), and only one had split off on the side. Altogether, there is no reason to believe that the average life of the C. R. M. Co. rails of 1874-5 will be shortened more than 5 per cent. by lamination and breakage.

Of the C. R. M. Co. steel of 1876-8, the only rails which show any considerable defects are those laid on the Pine Valley 8 degrees reversed curves, on a 60-feet grade.

fects are those laid on the Pine Valley 8 degrees reversed curves, on a 60-feet grade. These rails appear, by some chance, to have been an exceptionally soft lot, and have flattened out on the inside joints only in a very singular manner.

It seems plain from the facts above de tailed, bearing in mind that the great majority of rails classed as defective are defective only at joints and may be cut off and re-drilled, that the total loss from lamination and breakage cannot well be more than 10 per cent. of the ultimate life of, all the rails, and possibly much less. This loss, however, including the cost of cutting off, re-drilling and relaying, might perhaps cause as great an expense as if the average life were decreased 20 per cent. During the past seven years less than 1 per cent. of the English steel has been scraped, and much less in proportion of the C. R. M. Co. rails.

The averages of the comparative wear of inside and outside rails on average here.

less in proportion of the C. R. M. Co. rails.

The averages of the comparative wear
of inside and outside rails on curves show
generally that the outside rail wears most
evenly on the easiest curves. The sharper
the curve the greater this disproportion,
until, at about a 10-degree curve, it appears
that the wear on the inside rail ceases to increase, and all the additional wear from
shaper curvature is confined to the outside crease, and all the additional wear from shaper curvature is confined to the outside rail. The manner in which the wear takes place on the inside and outside rails is quite different, however. It is confined to the side and interior edge af the outside rail, but directly on top of the inside rails on that the outside rail is almost always the highest. It is also an invariable rule that the outside rail preserves a smooth and polished surface without projections beyond its original secwithout projections beyond its original sec-tion, whereas the inside rail laminates or "flows" somewhat, so as to form, in many 

steep as to necessitate the use of sand and brakes. The effect of speed on curves seems more important. Contrary to expectation the wear of rails on bridges was not found to be reduced in any way by the more elastic support for the rails.



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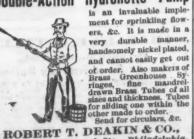
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No. 24 Columbia Street, New York, Maker and Patentee of the Improved Hydraulic Jacks

Punches. Roller Tube Expanders and Direct Acting Steam Hammers. Communications by letter will receive prompt attention Jacks for pressing on Car Wheels or Crank Pins made to order. The Anti-Clinker and Design Patents.

We have the following circular from Messrs. John S. Perry and Grange Sard, Jr., trustees, giving the terms and conditions of the settlements demanded for past infringements and licenses for future use of the anti-clinker and design patents now held by these gentlemen as trustees of Perry & Co., James Spear and the Anti-Clinker

[No. 1.] IMPORTANT TO STOVE MANUFACTURERS AND DEALERS

The undersigned take this mode of notifying the public that, by an agreement recently made by and between Messrs. Perry & Co., of Albany, Mr. James Spear, of Philadelphia, and the Anti-Clinker Asso-Philadelphia, and the Anti-Clinker Association, they have become the owners; in trust, of all the so-called "Anti-Clinker" and the Design Patents (31 in number), heretofore owned or controlled by these parties in their respective separate rights, including the well-known patents of Mr. James Spear. This union of interests was rendered imperative by the conviction of the parties, forced upon them by their recent protracted suits and counter-suits, that each held patents that would control essential features in the anti-clinker organization.

tal features in the anti-clinker organization of the modern stoves, ranges and furnaces. This condition of things, if permitted to continue, would have proved exceedingly embarrassing to the parties themselves and to the trade generally, as eventually it would have given to each party the power to arrest by injunction the manufacture and sales of the other, and at the same time would have subjected all other manufacturers and dealers to demands for damages and royalties from two independent and rival sources. By the arrangement now made this difficulty is obviated, and the public are relieved of all uncertainty as to the direction of their accountability.

accountability.

Among the more prominent of the patents thus brought under our control are those issued to the following persons: George R. Moore, patented May 22, 1866; reissued November 9, 1875; Charles H. Frost, patented July 30, 1867; reissued June 2, 1874; James Spear, patented March 1, 1870; reissued January 5, 1875; John S. Perry and Andrew Dickey, patented October 24, 1876.

A license under these and the various other patents now controlled by us will, in our opinion, secure the full and complete right to manufacture and sell anti-clinker stoves, ranges or furnaces, without the pay-

stoves, ranges or furnaces, without the paystoves, ranges or furnaces, without the pay-ment of any further royalty to any person or persons whomsoever; and, on the other hand, we believe that no one can make or sell an anti-clinker stove, range or furnace, of any pattern whatsoever, without infring-

ng several of our patents.

We regard the anti-clinker grate and its concomitants as constituting the most pro-nounced and valuable invention relating to stoves made within the lifetime of the present business generation. No proof of this is needed other than the universal adoption of the improvement. Not only has the popularity of the invention enabled manufacturers to realize a materially increased profit upon every structure in which it has been embedied but it has been been increased the embodied, but it has largely increased the volume of their business over what it would otherwise have been.

In view of these facts, known to every manufacturer and dealer, and the further fact, that the combined patents represent an unusually large investment of capital, by the present, as well as the former owners—not less in the aggregate than \$100,000—it is confidently expected by the undersigned, that the trade will cheerfully acquiesce in any reasonable tariff of royalties that may be established; and this is assumed with the more confidence, in view of the fact that formal notice of the existence of many of these patents, and the claim made for of these patents, and the claim made for royalties under them, was served by Perry & Co. upon every member of the trade at the following dates, viz.: March 1, 1873; July 1, 1874; July 20, 1874; Jan. 8, 1875; Jan. 18, 1876; Nov. 15, 1876, and Feb. 15, 1877. Formal and repeated notices have been given at various times, both in catalogues and in the public prints.

Among other warnings thus given in re-

logues and in the public prints.

Among other warnings thus given in respect to the unauthorized use of these patents, we quote the following: "Nov. 15, 1876. We authorize our customers to give notice to buyers of stoves, that we shall hold all persons liable for infringement of our patents who even use any constructions embracing the so-called 'Anti-Clinker' principle, that are not made either by us or our licensees. We shall at no distant day on instead because a signed over the wain stead of the same and signed over the wain stead of the same and signed over the wain stead of the same and signed over the wain stead of the same and signed over the wain stead of the same and signed over the s r licensees. We shall at no distant day call upon all unauthorized persons who have infringed these patents, or any of them, by the manufacture, sale or use of stoves, ranges or furnaces, to pay us the profits on same, as well as the damages that we have sustained by reason of such illegal use of

We believe that these inventions are worth, at the lowest, three to six dollars upon each construction in which they are embodied, and in the event of an accounting after a suit, we shall seek to collect for royalties all that we can prove they are worth, besides reasonable amounts for damages.

We have no desire to monopolize these inventions, but are disposed to offer them freely to the trade upon very low terms, and are therefore now prepared to issue licenses to responsible parties at the following rates:

Each.

A discount of 25 per centum on the above rates to be made for cash settlements on rendering accounts, as per stipulations of formal license. And a further discount of 25 per license. And a further discount of 25 per centum to all parties who shall settle for past infringements, and take licenses previous to the first of September next (1879). This latter offer will be withdrawn after that

In arranging prices for the future, the necessity must commend itself of adding a liberal sum for royalties to the price of stoves embodying these inventions. No licenses for future manufacture or safe will licenses for future manufacture or safe will be issued except to parties who shall have made satisfactory settlement for the past use of the inventions. To all who shall make prompt arrangements for such settlement, as the basis of future licenses, we are pre-pared to make liberal concessions. The re-fusal of parties to accept these terms, or their neglect to come forward promptly to effect settlement and take out licenses, will be deemed by us sufficient ground for com-mencing suits against them. We sincerely be deemed by us sufficient ground for com-mencing suits against them. We sincerely hope, however, that the exceedingly liberal spirit in which we are disposed to meet the trade will be fully reciprocated on all sides, so that no occasion for further litigation will arise. After a reasonable delay we shall publish to the trade the names of the manufacturers who are authorized to put in practice these inventions, and to warn dealpractice these inventions, and to warn dealers and purchasers that they will be held accountable for profits and damages on Stoves, Ranges or Furnaces that they may sell or use which are not thus protected. For convenience, all communications

For convenience, all communications should be addressed to John S. Perry, Al-JOHN 3. PERRY, 2 GRANGE SARD, JR., bany, N. Y.

Trustees for Perry & Co., James Spear and The Anti-Clinker Association ALBANY, June 14, 1879.

### Rouse's Improved Wrenches.

R. R. Rouse, of Indianapolis, Ind., is manufacturing some new and improved wrenches, of which we give illustrations on wrenches, of which we give illustrations on this page. Fig. 1 represents an axle nut wrench. When the sliding jaw C is in its proper position, the set-screw B is screwed up against it. This not only makes the jaw



fast, but also tips it, so that when loose the nut is held and prevented from falling. When the wrench is adjusted the loose handle A is held in one hand, while the other handle shown can be turned rapidly. This wrench fits any vehicle, from a coach to a

track sulky.

In Fig. 2 is shown a machinist's wrench, for which strength and simplicity are



main steel beam and riveted solid.

call upon all unauthorized persons who have infringed these patents, or any of them, by the manufacture, sale or use of stoves, ranges or furnaces, to pay us the profits on same, as well as the damages that we have sustained by reason of such illegal use of our property."

Again: "February 15, 1877. That there may be no misunderstanding or surprise, we again, and for the sixth time, give you notice that the manufacture and sale of stoves, ranges and furnaces embodying the so-called 'Anti-Clinker' devices are a clear infringemant of the above-named patents, and that you are now, and have been for some time past, so infr a ing. We ark you to render to us a detailed account of such manufacture and sale, and to take from us a license, if you desire to continue the same. Failing in this, we shall sak the court to assess the advantages that have accrued to you by virtue of the illegal use of our property, and also the damages that we have suffered by reason of the same."

Notices and warnings to a similar effect have from time to time been issued by Mr. Spear, and by the Anti-Clinker Association, and it would therefore appear that the infringements have been committed defiantly, with a full knowledge of the situation, and are therefore without excuse. The parties to the agreement have expended large sums, while the rest of the trade, with a few exceptions, have paid nothing. We think that simple justice requires that payments should now be made. And as a further reason for this, we will remind the manufacturers of promise pretty universally made that they would "cheerfully settle when it was decided whether the inventions belonged to produce of the camp of the late of the principal mines of the camp, which can be obtained with considerable accuracy, but also by the opinion of men who are best qualified to judge. Supposing Fryer Hill to produce any such as method to \$25 a ton, which there is no evidence that the mines of the principal mines of the camp, which decided where the principal mines of the camp, which can be Smelting Operations at Leadville .- A

ON

E. & Spi MAL Lo UNIO

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Cutlery.

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"ELECTRIC RAZORS," And the "ELECTRIC SHEARS." Nickel Plated

Agents for the BENGAL RAZORS.

AMERICAN TABLE CUTLERY, BUTCHER KNIVES, &c.
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THE "PATENT IVORY" HANDLE TABLE KNIFE.



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Table Knives, Razors, Shovels, &c., &c., of every description.

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BALL'S PAT. SOLID STEEL SHEEP SHEARS. These shears are unsurpassed for cheapness, durability and utility. They are made of one solid piece of steef from point to point, and cannot be broken in use either in the bow or at the junction of the shank and blade. Samples can be seen at above address, or sample jots furnished.



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A SPECIALTY,

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facturers of Patent Scandinavian or Jail Brass Pad Locks for Railroads and Switches. nufacturers of Patent Scandinavian or Jail g. Brass Pad Locks for Raiiroads and Switches. Patent Stationary R. R. Car Door Locks. Pat-page 2015 page 201

GEORGE W. BRUCE, 1 Platt St., New York,

CLEBENT & MAIN APPS Trowels Hoes pades and Scoops. The Trowels and Hoes rely supplanted the Landsh by their quality meas, while all their good country advantaged with those of other male and largely

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different sizes of Casters are adapted for use as designated below.
2, For parlor chairs and other very light furniture.
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No. 5. For heavy begassas, poor cases, and bookcases.

No. 6. For pianos extra heavy sideboards and bookcases.

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PAFECT DAY SAFE

TUCKER & DORSEY. teker's Incomparable Adjustable Stove Trucks and Tucker's Alarm Money Drawer, Indianapolis, Ind.



Frederick's 3-Herse Equalizer is a perfect Double Tree, a perfect Tripple Tree, a perfect 2-Horse stretcher, a perfect attachment for either 2 or 3 horses anywhere. Send for lituates the circular. M. E. BUNGER & CO., Indianapolis, Ind., Manufacturers.

PAT DEC 26,187 Established in 1839. A. G. COES & CO. WORCESTER, THE GENUINE COES Screw Wrenches. PATENTED, May 9, 1871. December 26, 1871. December 28, 18.4 August 1, 1876.

The back strain when the wre by the bar-not by the handle. The strongest Wrench made, and the only successful Re-enforced Bar.

A. G. COES & CO.,

Our Agents, GRAHAM & HAINES, 113 Chambers St., lew York, carry a full line of our goods, and will be deased to serve you at factory prices.

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Guns and Pocket Cutlery, SPECIALTIES.

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ELEYS BROS.' GOODS, WRIGHT'S ANVILS, WILSON'S BUTCHER KNIVES, &c. WILSON'S BUTCHER KNIVES, &c.
WOSTENHOLM'S POCKET CUTLERY AND RAZORS.
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All sorts of Hardware and Merchandise for import and export purchased on commission.

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HARDWARE, NOVELTIES,



CHARLES E. LITTLE. 59 Fulton St., New York,

Agency for Barnes' Foot-Power Machinery. Velocipede Scroll Saws, No. 1, \$12.00; No. 3, \$15.00; O. 4 (new one), \$15.00; for fine fret work. Velocited Scroll Saw, with seat, No. 2, \$25.00; and "Large" aw. \$25.00; both for light and heavy carpenter use, fortisting and Moiding Machine, ench, \$25.00. Comined Circular and Scroll Saws, \$20.00; with boring thanhmen, \$20.00; fand Circular Rip Saw, \$20.00; for eavy work. Lathes, \$25.00, \$50.00, \$10.00. Elxty-four auer catalogue description of above stranger catalogue.

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# THE ROGERS CUTLERY COMPANY,

### Silver Plated Table Cutlery and

On Spoons, &c. 1871 ROGERS & 5 oz. LWM. ROGERS & SON, AA.

COGERS & SON CONN. 12

On Knives..... Our KNIVES are guaranteed TO STRIP

2 dwts. of Silver per Dozen. All our goods are put up ONE DOZEN IN A BOX. Our Spoons, Forks, &c., are guaranteed TO STRIP

ALL OTHER GOODS IN PROPORTION.

All our Spoons, Forks, &c., are guaranteed to be plated upon

18 per cent. Nickel Silver, the best known base for plating upon.

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E. & G. BROOKE'S "Anchor Brand" Nails, Brads, BROWN & BROS.' Brass and Copper Wire, Snikes. &c.

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BRASS PAD LOCKS Patent Horizontal Rim Cylinder Night Latch.

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PATENT EXTENSION DOOR KNOBS (Pat. Jan. 29, 1878) manufactured in



mountings. Extend from 1 to 3 inches. They can be adjust ed to doors of any thickness without the annoyance of the old-fashioned washers and pins Our "Patent Cham ber" (Pat. Nov. 6 ber" (Pat. Nov. 6, 1877) prevents all possibility of the bursting of the glass bulbs. A trial will make

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ESTERBROOK STEEL PEN CO.. Works, Camden, N. J. PAT. "SCREW WINDOW BALANCES."

Retail Price \$1 per window (four balances). Liberal Discount to the Trade. Mechanism Always Wanted. ROBERT B. HUGUNIN,



Bearings.

\$6,000,000; the manager of the largest that in the one essential particular of bolts smelter thought that it might possibly reach and nuts there is no attempt made for \$12,000,000; and this was the largest estimate I have been able to obtain from any one who is in position to express a very in-

Car Axles, Nuts and Screw Threads.

At the recent meeting of the Master Car Builders' Association in Chicago, we find the following matters of interest to our readers. In the course of his opening ad-dress, President Leander Garey said: " Gentlemen of the Convention.—The officers of several reads during the

of several roads during the past year have permitted the ordinary no-ton car to be loaded with 12 tons. Some of the results of this increase of load per car is hot journals, bent and broken axles, with their consequent expense of repairs. The matter of uniformity in car axles and journal bear-ings has occupied the attention of master ings has occupied the attention of master car builders more, perhaps, during the past year than ever before, and the action of the Master Mechanics' Association in recommending the use of the standard axle proposed by this association six years ago, will, it is thought, do much to push forward its more general introduction, if in reconsidering the matter this year you should reaffirm the conclusions you adonted in 1822. It is the conclusions you adopted in 1873. It is of the utmost importance that the subject should be fully discussed, and that all should have abundant opportunity of expressing their views. I would suggest that you in-struct the committee which now has this subject under consideration, to confer with the similar committee of the Master Mechanics' Association, to prepare a standard drawing and engraving of the axle, and a journal bearing to correspond, and that such engraving be published in the next annual report. At present there is some doubt about the minor dimensions of the axle, and some of these are in dispute. It is important, therefore, that some estab-lished standard should be fixed from which there can be no appeal, so that railroad companies and officers disposed to adopt the standard axle need not be in any doubt con-cerning its dimensions. Without intending to anticipate your action in this matter, I would also venture to suggest that you in struct either the present committee or committee on axles, or a special committee to be appointed for the purpose, to prepare a communication to be addressed to the superintendents and

hereafter.

I would call attention to the advantage of I would call attention to the advantage of small, light cars, to be used in local freight traffic. Freights to be moved short distances are usually presented in small lots, which must be moved at once, and the ordinary lo-ton car is usually sent out with an average load of 3 tons to the car, which could be handled in smaller cars with much economy. I would recommend that foreign cars found with leftky roofs be reported to their owners, and also to the general freight agents of the lines in which they are employed. ployed.

managers of railroads, setting forth the reasons for the adoption of your standard in all new cars to be built or reconstructed

Your committee on screw threads will doubtless report to you such action as to them seems desirable to take in the matter. With reference to screw threads, it may with reference to screw threads, it may be said that one very great evil at present is the use of odd sizes of screws, that is, of sizes 1.64 or 1.32 larger than the fractions of an inch ordinarily in use. A standard system of screw threads is impossible so long as this system provails. The reason assigned for it is that merchant bar iron assigned for its remained dispersion. usually everruns its nominal diameter, and therefore either the dies for making screws must be larger or the extra thickness of the iron must be cut off.

That the manufacturers of iron will con master car builders will be satisfied with it seems probable, but a very little inspection of iron when received would soon remody this evil. A suitable resolution recommending that none but "even" sizes be used for screw threads would probably be of service in remedying the evil and establishing a ore uniform practice,

The report of the committee to investi gate and report on the present construction of screws and nuts used on cars, on the amount of accuracy that it is desirable to secure, and the best means of maintaining it in the standard adopted by the Associaread, as follows:

Your committee appointed at the last convention "To investigate and report on the present construction of screws and nuts used on cars, and the amount of accuracy that is desirable to secure, and the best means of maintaining it in the standard educated by the association in Richmond Va adopted by the association in Richmond, Va.,
June 15th, 1871," respectfully submit the
following report for your consideration:
Among the appliances required in the
construction of a good and substantially-

made car there are none of greater im portance than that of properly proportioned

bolts and nuts.

And when it is considered that these are profusely used over all parts of the car, it certainly appears unnecessary to remark that they of all parts should bear the stamp of uniformity. That is to say, every bolt professedly of the same diameter of screw should be interchangeable, so far as the fitting of nuts of professedly the same size is concerned. bolts and nuts. concerned.

concerned.

This desideratum can be obtained easily if bolts and nuts are screwed to one gauge, no matter what form of thread may be adopted, so long as the size and pitch of thread be uniform.

In dealing with the construction of one car, or any number of cars built by or for any one or more companies, so long as the bolts and nuts fitted each other accurately, and the threads were of a shape that would

Bearings, Pump Rods and Spring Wire.

The Phosphor-Bronze Smelting Co., Limited, 2038 Washington Avenue, Philadelphia.

Bearings, Pump Rods and the threads were of a shape that would hold well, there might be no reason to question their suitability, and hence there would be no necessity for reporting on the subject. But when experience steps in and calls attention to the fact that there are numerous parties manufacturing cars by the hundreds and thousands, and that these cars are traversing the whole continent, becoming in a certain sense indiscriminate property, and dies it is not necessary, for the requirements of car builders, to expend a large sum of money.

The Phosphor-Bronze Smelting Co., Limited, 2038 Washington Avenue, Philadelphia.

result.

In the year 1870 this association felt the necessity of taking measures for the acquiring of a standard thread, and in the year following, a report embodying a standard pitch of thread, and also a standard for widths and thickness for both heads and nuts was submitted and emphatically advoted. nuts, was submitted and emphatically adopted

by this association.
This standard was the one previously adopted by the Franklin Institute in De-cember, 1864, and recommended by that body for general adoption as the American

standard.

The following is a copy of the resolution adopted by the Franklin Institute:

Resolved, That the Franklin Institute of the State of Pennsylvania recommend for general adoption by American engineers the following forms and proportions for screw threads, both heads and nuts, viz.:

That screw threads shall be formed with

That screw threads shall be formed with straight sides at an angle to each other of 60°, having a flat surface at the top and bettom equal to one-eighth of the pitch.

The pitch shall	be as	follo	ws, vi	2.:	
Diameter ¼° No.thds per in. 20 Diameter ¾° No.thds per in. 11	5-16"	34"	7-16"	- 36"	0-10
No.thds per in 20	18	16	14	83	12
Diameter 3/6"	34"	76"	1,	13%	x34"
No. thds per in. 11	10	.0	. 8	. 7 .	7
NorzThis table	exte	nds re	irther,	tob	olts 6
inches in diameter,	which	is un	песеяв	ary fo	or car

The distance between the parallel sides of a bolt head and nut shall be equal to one and a half diameter of the bolt, plus one-eighth

of an inch. The thickness of the heads for rough bolts

The thickness of the heads for rough bolts shall be equal to one-half the distance between their parallel sides.

The thickness of the nut shall be equal to the diameter of the bolt.

The thickness of the head for a finished bolt shall be equal to the thickness of the

The distance between the parallel sides of a bolt head and the thickness of the nut shall be one-sixteenth of an inch less for flaished

or one-sixteenth of an inch less for massed work than for rough;

The following is a table showing the diameter of bolts, number of threads per inch, width of rough both heads and nuts between parallel sides, and sizes of holes in nuts to

Di	a	0	đ			e	r							D	T	0			T	H	res	и	ds		0	idt ads	at				Holes	8.
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Now, considering the great intercourse and interchange of traffic that has taken place of late years, and the natural interchange of cars belonging to the numerous companies from the extreme parts of America, and the economical advantages to be derived from the assimilation of the chief details of cars most liable to be injured or disarranged, and above all may be mentioned the bolts and nuts, it seems almost inconceivable that the master car builders themselves, who have to effect the repairs and selves, who have to effect the repairs and renewals needed, should not have secured a greater uniformity of construction gener.

ally, and especially in reference to the sim-ple matter of bolts and nuts. Although the Franklin Institute, or Amer ican, standard was accepted and published in 1871 by the master car builders as their

in 1871 by the master car builders as their adopted standard, yet we find that in the present year (1879) they are actually working without a standard.

One has a sharp V thread; another has a thread with a rounded top and bottom; another a flat top and bottom thread; and will now they are the results of the standard to the standard to the standard to the standard to the standard thread; and with an indefinite thread; still another with an indefinite thread.

amounting to almost no thread at all, for it neither has depth nor pitch, nor resisting surface fit for railroad or any other service. Taking them with their defects, as we too often find them, some I 32" smaller than the

true gauge, while others are 1-32" larger, they present a conglomeration, to say the least, as very remarkable and very unde-

sirable.

Many, if not all of us, have experienced troubles caused by these bolts and auta with no threads and loose fits, in the dropping down of brake beams, draw bars, troub framing, and many other parts, which here too well understand to require the particularizing. It devolves upon your committee to speak very plainly on this subject, and point out

the remedy. the remedy.

This is found by simply carrying out in its entirety the standard which you have already approved and accepted, viz.: the Sellers threads and the Frankin Institute sizes of bolt heads and nuts.

Unlike the thousand and one car couplers

patented, there is no royalty to pay for this Franklin standard.

Besides the question of pitch and form of threads, there is that of gauge size. As already stated, we find the screws of bolts and nuts varying in diameter, in some sases to the extent of I-16th of an inch, and yet they are called by the same designation,

viz.: ½, ¼ or ¼, as the case may be.

The fact is this—many makers of screwing tools evidently use rule-of thumb gauges, and if they can approximate somewhere about the true size, they think it is "near enough.

enough."
These "near-enough" makers do not appreciate mathematical accuracy, and it is open to doubt whether they ever saw those splendid specimens of art called gauges as made by Whitworth, or Sellers, or Pratt & Whitney, for, when once seen, a conscience must be very much blunted to be satisfied with work done by "thumb rule." Guess-

work is nearly its equivalent.

To secure this standard system of taps and dies it is not necessary, for the requirements of car builders, to expend a large sum

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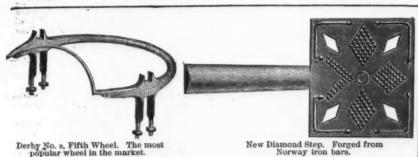
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which those companies ordering large quan-tities can readily ascertain what they pay for useless weight in the course of a

Taking bolt iron first, and assuming the size required to be % inch diameter, it it is

For 34 iron, an increase of 1.32d of an inch adds 8½ per cent.: and for 1.16th of an inch larger it adds nearly 17½ per

In like manner runs the extra weight for other sizes of iron, all of which has to be paid for in proportion to the weight, while for the purposes required the standard sizes are all that are needed.

Again, in the case of nuts and taking the

Again, in the case of nuts and taking the Franklin standard sizes as a basis for computation, we find from a manufacturer's lists before us, that there should be 738 square nuts for 5% bolts in 100 pounds, while the actual number of those in very general use is only 440. For 34 nuts of the Franklin standard there should be 420, in stead of which we get only 260 of those in common use for 100 pounds. From these comparisons we see the loss in number of 5% nuts is 41 per cent. and of 34 nuts 38 per nuts is 41 per cent. and of 14 nuts 38 per cent., and this loss can be prevented by simply conforming to the Franklin Institute standard.

It is unnecessary to extend this report further after so fully demonstrating the many advantages, and the economy which would result, by carrying out in its integrity the standard threads in combination with

standard sizes for bolts and nuts.

Every member is more of less interested in the subject, and in these days when the i sterchanging of cars is the rule, and mem-bers are expected to treat foreign cars as

bers are expected to treat foreign cars as their own, it needs must be admitted that the sooner a general uniformity is adopted and maintained in practice, the better for all concerned. Respectfully submitted.

June 9, 1879. John Ortton, C. S. R.

Discussion.—Mr. Davenport stated that while it had been intended by the association to adopt the United States standard, that fact had not been very clearly understood. The fact should be impressed that the Master Car Builders' standard is the "United States standard." Some have the mistaken impression that the V thread is intended in the Master Car Builders' standard, which is not the case.

which is not the case.

Mr. Ortton had been so impressed with Mr. Ortion had been so impressed with the necessity of uniformity in screws and nuts that he had entered into the subject with considerable zeal. He, in common with others, had much difficulty from the difference between nuts and screws. They do not fit accurately, and the nuts soon work loose. He enumerated several accidents which had resulted from this fact. There is nothing about a car in which there is greater necessity for uniformity. Some large companies are still using V threads instead of those with flat top and bottom. The Franklin Institute had decided upon certain sizes of nuts, and if these standards certain sizes of nuts, and if these standards were conformed to, a large saving of money would be effected. Out of every 100 pounds of nuts purchased they might get 45 per cent. more nuts for the money. They should buy by the number of nuts instead of weight. The same thing is true of bolts. It should be specified, in ordinary bolts, that the standard must be exactly conformed to, and this should be rigidly adhered to. He exhibited several samples of nuts, showing the differences in sizes and discrepancies between the threads. It was worse than folly to try to secure brake beams by such badly fitting nuts and bolts. Wellsuch badly fitting nuts and bolts. Wellfitted threads will do more to secure immu-nity from accidents than any other thing,

which is so easy and inexpensive.

Mr. Davenport said that the maintenance of the standard required close care and attention. It would pay and ought to be

done.
Mr. Leander Garey admitted that Mr.
Ortton had exploded a bomb-shell in the
midst of the association. He confessed that
he had not been as careful in this matter as he should be. The M. C. B.'s could do nothing which would aid their companies in the matter of dividends more than to use and insist upon these standards.

Mr. Kirby considered that the Master Car Builders did not have the requisite authority to enforce this matter. When they pur-chase cars, they cannot change all the bolts, screws and nuts. The matter should be car-sied to the higher supporting ried to the higher authorities.

Mr. Garey: The car builders should figure the matter up and present the result to their superior officers. They would soon take

Mr. Ortton: Car manufacturers will conform to the wishes of this association if the matter is sufficiently impressed upon them. They certainly would wish to save the extra and useless material in nuts. For six or

found less than if we made them ourselves, and then we may depend upon securing an accuracy scarcely otherwise attainable.

In ordering taps and dies, it will be only necessary to specify the sizes required, and name the standard as that adopted by the Franklin Institute.

This report would scarcely be complete without referring to the sizes of bar iron obtained for making bolts, and the sizes of nuts received from manufacturers.

If the members of this association will take the trouble to measure the diameters of bars ordered, they will probably find a variation in size equal to 1-32d, and perhaps in some cases 1-16th, of an inch larger than the size ordered.

To show the results of such inaccuracy, it is only necessary to point out the extra weight to be paid for over and above what a correct-sized bar or nut would cost, from which those companies ordering large quantities can readily ascertain what they.

Mr. Oetten the difficulty occurring every day in repairing foreign cars. When a nut was gone, it was frequently necessary to throw the bolt into the serap piles. It is seasy to get away from uniform sizes. A very little wear upon the tap and die will vary the thread; and very soon they get far away from the standard. We make screws and nuts at our different shops. We started on the standards with taps and dies exactly alike. But they kept getting apart, and I think it almost impossible to keep the taps and dies uniform. We must have a standard surgicular than the size ordered.

To show the results of such inaccuracy, it is only necessary to point out the extra weight to be paid for over and above what a correct-sized bar or nut would cost, from which those companies ordering large quantities can readily ascertain what they

me shop.

Mr. Ortton thought that too much disposition was manifested to throw the reform on the shoulders of superior officers. There is not one of us but has control of this matsize required to be 36 inch diameter, it it is ter of screws and nuts. He thought it best 1-32d larger, the extra weight will be about to buy taps and dies from manufacturers; 1014 per cent. more; and for 1-16th larger, the extra weight will be nearly 21 per cent.

The control of the source of t

Resolved. That this association will in future adopt the Sellers threads and sizes of nuts, as recommended by the Franklin Institute, and that in giving any future orders for both iron or auts, they will require the sizes to conform strictly to the above standard. They also emphatically submit this resolution to the earnest attention of all car manufacturers, and urge them to adopt the same standard sizes in all cases within their control.

Mr. Forney gave a brief history of the Franklin Institute standard. It was devised by Mr. William Sellers, and should bear his name. The United States navy and army had adopted it, and the Railway Master Mehad adopted it, and the Railway Master Me-chanics' Association had also done so. Miz-takes had been made by some in adopting merely the number of threads to the inch, but neglecting the matter of form. He ex-plained the difference between the Sellers and Whitworth forms. The former is flat on the top and bottom of the thread, and the latter rounding. The former is more easily manufactured and maintained with accuracy.

Mr. Ortton's resolution was passed. Mr.

### Improved Drum Hose Carriage.

We show in the accompanying illustration a drum hose carriage, manufactured by Manard & Bro., Rockford, Ill. It is designed for handling yard hose, in connec-tion with yard hydrants. It is provided with a drum on wheels to wind the hose, to



edly through it when wound up or be expelled upon reversing the reel. It is also pre-vided with a device to retain the reel as fast as the hose is wound upon it, has adjustable rubber clamps to grasp the nozzle of the hose, and other improvements.

Trade With the Mexican Ports,-The Mexican government has recently issued a decree that is of unusual interest to Amerseaport towns of that republic. expensive and vexatious delays have been caused to steamers in the Mexican trade. These steamers were obliged to lay over at the These steamers were obliged to lay over at the first ports in Mexico they touched until their invoices of goods for that and other ports were overhauled, examined and copied. Not unfrequently this delay has lasted for several days before the steamer could proceed to other Mexican ports for which she might have the steamers. The new degree to freight and passengers. The new decree to which we have referred does away with this superfluous delay, and enables steamers to proceed on their way without inconvenience or annoyance. The decree provides which make regular trips, and which carry merchandise to two or more seaports in Mexico, instead of depositing the invoices covering all their freight in the first of these ports reached, and waiting in port until acted on shall deliver merely to the custom-bouse on, shall deliver merely to the custom-house official a copy of the general invoice of that part of the cargo destined for other ports. A second section specifies, however, that this does not sanction the neglect of complying with the usual custom-house regriations. Besides facilitating trade, this action on the Besides facilitating trade, this action on the part of the Mexican government shows a disposition to promote closer commercial re-

and useless material in nuts. For six or eight years we have allowed our rules to lie dormant; it is time to enforce the rules adopted in 1871. He was glad to see the committee report so warmly seconded by Mr. Davenport and Mr. Garey.

Mr. Booth coincided with the opinion expressed on this subject. His road used the U.S. standard, and had much trouble from the lack of uniformity among other roads. He thought if this association took emphatic action in the matter, it would have a wonderful effect.

Mr. Adams thought every one was consulted in the loss in wages occasioned by the late strike of colliers at Durham amounts to \$3,000,000,000 of which was borne by the men. Each miner has, it is said, lost per cent. better terms than the owners offered at first, 1½ per cent. being 0.5 cent. in the dollar. The colliers will have to work 9½ years to recover the \$25.60, withwork 91/2 years to recover the \$25.60, with-Mr. Adams thought every one was con-out reckoning interest.

# The Iron Age

Metallurgical Review.

New York, Thursday, June 26, 1879.

DAVID WILLIAMS . . Publisher and Proprieto JAMES C. BAVLES . . . Editor. JOHN S. KING . . . Busin

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Thirty-fifth Page—Boston and St. Louis Hardware and Metal Prices.

In another column we print a circular of much interest to all branches of the stove trade. It is issued by Messrs. John S. Perry and Grange Sard, Jr., trustees of the alliance lately effected between Perry & Co., James Spear and the Anti-Clinker Associ ation, by which all the patents that the parties in interest consider of value as relating to the principle of the anti-clinker grate, are combined. This, as we have before said ends the litigation between Perry & Co. and the Anti-Clinker Association, and under the conditions of the alliance, Messrs. Perry and Sard, as trustees, are to collect and divide between the parties in interest the royalties which both Perry and Spear have hitherto claimed as due for past infringements of their patents, and issue licenses for the use 15,607 in 1878 and 1877. To this there has of anti-clinker grates in future. The cir- to be added Banca affoat for the Netherland cular is explicit and business-like, and will Trading Company, 630 tons, against 412 and explain itself. It brings the stove trade 63, making a total of 18.593 tons, against

pected it would assume. Most of the manufacturers who have used the anti-clinker grate in cook stoves and heaters have imitated the example of the third dog in the fable, who picked up the bone and ran away with it while the two dogs who originally claimed to have found the bone were quarreling for its possession. But now that the two dogs have settled their differences and have joined in the chase, with a full pack at their heels, the dog who until lately congratulated himself that he had got safely away with the bone, will have to consider whether he will give it up or fight for it. At present we are unable to say which course he is likely to adopt.

### Position and Prospects of Tin.

Since our annual review the world's tin markets have been continually fluctuating, but these fluctuations have not been as extreme as they used to be when the altered position of the metal was not yet fully understood. The time to which we refer was about two years ago, when Straits tin was still bordering upon £90. The reason why tin fluctuates less violently nowadays, has to be looked for in the fact that consumption, under the stimulus of lower prices, has considerably increased in the United States. China was not much of a onsuming country in former years, but from the moment Straits tin declined at protection, and the movement for reciprocity Singapore to about \$19 per picul, China began to take increased quantities; and, as the manufacture of metal goods is immense in that country, there is no saying what quantities it may eventually absorb. We given by France of a desire to terminate believe our estimate is not exaggerated them at their expiration. This action has an when we value Chinese consumption at as high a figure as ours, say 6000 tons per annum on an average. We say on an average, because at a certain price Chinese consumption has hitherto been stopped abruptly, showing that cheapness is a conditio sine qua non.

The doubling of consumption in the United States within the past few years, and the unexpected growth of the Chinese demand, together increased the consumption of time at least 7000 tons annually, while the price was low-i. e., while the price was nearer £50 than £80 for Straits tin. So long as prices remain about midway between these wo extremes, as they are at present, we do not see why consumption should not go on undisturbed, and gradually even increase with the revival of trade and the increase of population. It may even swell considerably should the price again approach £50.

So far as accounts have reached us since our annual review, production shows no particular increase anywhere; it is simply steady, while larger in Van Diemans Land than was expected. The inducements to push this large Tasmanian production are also greater than were supposed, for the position of the tin fields, and other favoring circumstances, enable the smelter to produce a good quality of tin at about £30. On the Australian continent it costs some £50; but the entire Australasian production is as yet not large enough to check the output anywhere in the East, and the consequence has been that the lowest price to which Straits tin was depressed, in a panic in London during the fall of last year, was £53, from which it rallied, through a well-concerted speculation, to £70, and has since receded

In Europe consumption does not expand as rapidly as it does in the United States and China, but it nevertheless makes steady headway, and the general outlook seems' to us reassuring-that is to say, we have arrived at a stage which seems to place tin upon its intrinsic value, £65.

Much will, of course, depend upon the general business aspect on both sides of the Atlantic during the latter part of the current brilliant, nor are they discouraging. The mic questions now agitating th not apprehended, while money will in all likelihood remain cheap. In this country than it is in Europe. The crops are ample, prices moderately remunerative even for cotton, and the cost of living has cheapened to an extent not witnessed since 1861.

Stocks of tin and other metals not being large in the hands of dealers and consumers anywhere, it is fair to presume that prices will not show the weakness they exhibited the Committee of Inquiry into the Causes last year toward autumn, unless production again runs into extremes in some quarter where such an increase is not apprehended. Moreover, the statistics present nothing very alarming so far as tin in Europe is con-

cerned :			
STOCE	MAY I.		
London Holland, East Indian '' Australian	3,922	1878. Tons. 9,308 2,997 426	1877 Tons 9,130 2,058
- Total	**	12,731	11,897
AMOUNT AL	LOAT MA	Y I.	
From the Straits  Australia  Dutch East Indies.	1.556	745 2,190 1,300	336 2,360 1,030
The visible supply therefore, 17,963 ton	June s, again	nst 16,96	6 and

1, 1878, which is not much so far as Europe concerned.

The matter stands a little differently as and neighboring ports. We find stocks in importers' hands and afloat unusually large, and requiring brisk times in the fall to pre vent a glut should importation not be mate rially checked. The probabilities are, there fore, that during the summer season this market will be dull and prices low.

### The Protectionist Movement in France

In our last issue we referred to M. Leon Chotteau and the hopeless mission he ha undertaken in endeavoring to convert the people of the United States to the accep ance of his gospel of reciprocity. While it is evident to all who have watched the course of public sentiment in this country, during the last ten years especially, that M. Chotteau will have his "labor for his pains," his course is not so devoid of wisdom as would at first appear to be the case. M. Chotteau's mission is but a part, and a somewhat small part, of a scheme involving an entire and radical change in the treatier affecting the commercial relations of France with other nations. He is supported and endorsed by those who are at the bottom of the present agitation in France relative to with this country is but a part of the plan of the French protectionists. Our readers will remember that all of these treaties have been "denounced;" that is, notice has been important bearing not only upon French industry, but also upon the future of the French nation, and one that is not sufficiently understood abroad. Up to 1860, the time of the negotiation of the famous commercial treaty with England by Napoleon III, France was at least moderately protec tionist, if she could not be rated as strongly committed to this policy. Led by his great desire to conciliate the English nation, the Emperor concluded this treaty, by the terms of which the two nations virtually established mutual free trade, the exceptions being mainly in the case of silks, wines, chocolates, plate, &c. This treaty was the beginning of the downfall of the Empire. While it gave a new impulse to some branches of French industry, notably to agriculture, it aroused an intense opposition among the great manufacturers, and for the first time a strong class arrayed itself against the Imperial policy. In the period between 1860 and Sedan, one cannot fail to trace the disaffection of the industrial classes running like a dark thread through the whole fabric of French politics, until at last it destroyed the design entirely.

Under the new order of things and with the consolidation and permanency of the Republic, it was to be expected that a large majority of the ruling party would be in favor of some change in the existing treaties in the direction of a return to the traditions of the days before 1860. They had denounced the commercial policy of the Empire, and the policy of the Republic would naturally be the opposite. It was in answer to this sentiment that the treaties were de-

nounced last year. This sentiment is much stronger in France than is believed. Within a short time there have been held in Paris two meetings of delegates from the chambers of commerce, which are established at all important trade centers. To the convention of those representing free trade, eighteen chambers sent delegates... To the one representing protection, fifty-eight chambers sent delegates. It is claimed by the English journals that the most important chambers were represented at the free-trade convention. While year. Prospects in Europe are by no means this may be partially true, fifty-eight to eighteen is too large a proportion to be disness communit, will all be settled by the the protectionist convention, and the adend of the year; the craps are poor if any dresses of the delegates to the Minister of thing, but not positively bad, and wars are Commerce, might be mistaken for the utter ances of a delegation of the American Iron and Steel Association, if certain names and the business outlook is a great deal better figures were changed. The decline in merchant shipping, and the increase of the carrving trade in foreign bottoms-especially English-were set forth, and the urgentne cessity of a tariff to the existence and adequate support of the large industrial popula tion of France, was pressed upon the attention of the Minister. Early last year, of the Commercial Depression in France made its report. In this inquiry, the report of which has been widely circulated in parison of the number of accidents will France, many of the representatives of the show, there are generally, in falls of slate or various branches of French industry who were examined were very decided in their views regarding the necessity of protection. It is these facts that give M. Chotteau's views all the importance they possess. It taken into consideration that explosions genis evident that the French industrial classes will demand-and probably succeed in obtaining-protection against their neighbors. of accidents from the fall of coal, roof or As a result they will foster and encourage certain branches of their-industries that have been impaired by foreign competition under the virtual free-trade treaties. On curity of the workings, and therefore it is done trying his experimental policy, we the other hand, the competition from to their better support that those who would America in these branches is very slight, while the injury our tariff has inflicted In this matter they have not the support of a reckless policy is inspired by a desire

need protection, while those that do not ed it at home will have the barrier against The matter stands a little differently as their extension in this country removed. regards stocks in first hands in New York This is the feeling in France. It may be a mistaken view of the results of reciprocity, as the removing of the prohibition upon the importation of iron, &c., may lead to shipents of certain classes of goods from this country. Be that as it may, there is a strong feeling of the kind we have mentioned in France. M. Chotteau, to some extent, represents this phase of French public opinion and this fact explains the nature of his

### Loss of Life in Mining Coal.

The frequent recurrence of explosions in coal mines, with their scenes of terror and anguish which plunge entire communities into grief, rouse the sympathy and provoke the indignation of the civilized world. They have caused coal mining to be associated in the popular mind with a constant battle with a terrible, and apparently invincible danger. The press and the people have urged and insisted upon legislative interference, based upon elaborate and careful investigations made by eminent scientists and experienced engineers, and it is but justice to say that they have been supported and aided by the colliery proprietors, who have large interests at stake, and to whom an explosion may mean utter ruin financially. While we are far from finding fault with the motives of these efforts, and fully appreciate their results, which we hope will ultimately lead to the entire suppression of accidents, we desire to attract attention to another class of disasters which escape record in the press. Judging from what is occasionally presented to the public in the shape of contributions to the literature of coal mine explosions, there is much room for intelligent discussion even on a subject which has been so thoroughly canvassed. False impressions are created by one-sided views, fondly cherished by would-be reformers to the exclusion of all other considerations. Thus we find a recent English writer who has experienced the "terrible oppression of utter darkness, and the irritation produced by inadequate light," starting off from the proposition: "The miner requires light." Mr. F. R. Conder, the writer of the essay in question, forgets or neglects all the various important points connected with ventilation, fire testing, the enactment and enforcement of proper police measures, the removal of coal dust, the regulation or suppression of blasting, &c. He looks to "satisfying the mute instinctive demand of the miner for light," for the prevention of explosions in coal mines. The importance of good light has never been denied, and the efforts to secure it have been numerous, and, in some cases, successful. But it is quite in a different direction that incre light will aid in doing much good, and it is to this, a subject too generally unheeded, that we wish to call attention.

In almost every country in which coal mining assumes industrial importance, records of the casualties in coal mines are now, and in some cases, have been for many years, officially kept. We need only refer to them to show that Mr. Conder has not alone misunderstood the measures 'ne cessary for the prevention of disasters, but also the value of better light in preventing the loss of life. In England, average of 15 years, 20 per cent of the fatal casualties were attributable to explosions, 33 per cent. to falls of coal and of roof, 15 per cent. to shaft accidents, and the rest to miscellaneous causes. According to the Inspectors' Report for Great Britain for 1878. just published, the number of deaths (a) and of separate accidents (b) for 1877 and 1878 were:

42 403 112 439 88 In shafts.
Miscellaneous in mine and on surface. 124 265 249 217 233 1375 It may be interesting to add that the reports of the inspectors of the first, second and third bituminous districts of Pennsyl vania for 1877-78 show the following record

of fatal accidents:

From these figures it will readily be understood why the classes of accidents which are most fatal in the aggregate, easily escape the attention of all but the few whose daily observance of the miner's life has made them acquainted with the facts. As a comroof, only one, and rarely more than three or four victims, whose death is mourned by a few and is rapidly forgotten by the community. On the other hand, it must be erally prove fatal to many, and a few only escape alive, while by far the greater number sides results in slight or serious injury, and exceptionally only in death. The greatest source of danger to the miner is the inserob the miner's life of its perils must turn. on their wine and silk trade with this public opinion, since the public know nothing to "freeze out" competition. Mr. Lincoln country is very great. Now, if reci- about it. Nor is it as evidently the interest used to tell a story about a man who was procity could be brought about between of the colliery owner to aid in the preven- annoyed in the night by a dog, and de-

property. On the other hand, we regret to say, miners often display a degree of recklessness which is nothing short of criminal Add to this the ignorance of danger which results from inexperience, and the propor-tions to which the annual death roll swells will not appear surprising. The remedy lies in a thorough system of substantial timbering, put up, if possible, by a gang of men who have no other duties, and subject to frequent inspection by proper officers. As an example of the comparative immunity from danger which the dexterity of men well trained brings about, we may name the gangs of men who, in many mines, rob the timbers from exhausted workings, or throw down the coal of thick seams by snatching away the timbers which support

There is no part of the miner's duties which so emphatically calls for the exercise of judgment, to be acquired only by years of patient observance of facts and by practical experience, as the timbering of the workings. Much can be done to secure safety by appropriate modifications of the method of mining, by good light, &c., and to this engineers and colliery miners should earnestly turn their attention. Reform, which is urgently needed in many districts, can only be the result of a realization of its urgency, a study of the causes of the disasters and a correct choice of the means of avoiding them. It should be remembered, however, that no action on the part of the mine owners, however great their liberality or however honest their desire to protect the lives of their men, will avail much with out a due regard on the part of the men themselves to the rules and regulations laid down for their guidance, and which in most pits are persistently violated. Recklessness on the part of the miners is, after all, the greatest of all the causes of death and injuries in and about mines. Familiarity with danger is apt to make men careless, and without constant vigilance on their part coal mining can never be made much safer than it is now.

### The Situation in the Stove Trade.

We invite the attention of manufacturers and dealers to the report of the proceedings of the National Association of Stove Manufacturers, on the second day of its session at Boston last week. As the discussion deals largely with questions of cost and selling price, we have given it in unusual detail, omitting only such portions as seem of minor importance or wholly irrelevant. Much of the discussion is verbatim, and as an expression of the views of manufacturers on the subjects of greatest present interest to the trade, it is timely and valuable. It shows very clearly that the stove trade is in a position of peculiar danger, and to carry it safe between Scylla and Charybdis, which loom up on either side, will require skill and courage. The manufacturer seems to be in a position which forces him to choose beween losing some part of his trade or following a line of policy, in the hope of retaining it, which cannot fail to lead him into additional difficulty and danger. What a clever manufacturer has called the "millinery" of the business has been carried to a point beyond which it is unsafe to go. Those who seek to lead the styles and set the fashions in ornament and decoration, are in danger of being led into excesses which will prove ruinous. Those, on the other hand, who would gladly abandon useless and costly "frills," and return to plainer styles and better construction, are deterred by the fear that the dealers will not accept anything less magnificent than they are now getting. But the relation of cost to selling price, and the fact that the business does not pay interest on the capital invested, are questions which will not be set aside. They stare the thoughtful manufacturer in the face, and he must look at them, whether he will or not.

The trouble has been, and still is, that manufacturers do not, as the rule, know what their goods cost them. Many are deceived by false estimates, or deluded by overvaluation of nominal assets. They inoice as property or capital much that should be charged to expenses, and so wiped out. Another serious cause of trouble in the trade during the past few years, has been found in the fact that somebody has wanted each season to try an experimental policy at variance with all the established laws of trade. We have watched the results of such experiments with a good deal of interest, and are frequently reminded of the lines:

Then he took his pencil to figure out How great his gains would be If he sold his stoves for a tenth their cost; And, as one may plainly see, No man who tackles a sum like this Can do it easily.

Generally speaking, the result of an experimental policy has been to convince those who have ventured thereon that it was easy enough to buy and sell, but that getting gain involves the necessity of charging more for one's product than it costs to manufacture and sell it. Unfortunately, however, one moth seldom learns wisdom from another moth's mishaps in the candle flame; and when one manufacturer is usually find another standing ready to begin where he leaves off. In many cases, face to face with the question in a shape 17,378 in 1878 and 15,670 in 1877. This France and the United States, but little inwhich the trade at large have never exconstitutes an excess of 1215 tons over May jury would be done to those branches which

front door in the hope of accomplishing his the depres purpose. It may have been uncomfortable for the dog, but it cannot be said to have been pleasant or profitable for the man. Freezing out is something very easy to talk about, but if one has to hold the victim he is freezing, one is certain to find it a cold

The movement to strengthen the market and advance prices, begun in the spring, has already had an excellent effect, and is the only sensible move recorded in the recent history of the stove trade. Even in its partial success it has averted the danger of further demoralization, and stiffened the backbones of many manufacturers who, without such encouragement, would probably have lacked the courage to save themselves from ruin. The discussion in the National Association, and its moderate recommendation with regard to prices, should be read and considered by local associations throughout the country. These, after all, are the controlling influences in the trade, and harmony of action between them is greatly to be de-

The display of machine tools at Philadel phia in 1876 was one of the best, if not the best, ever made. In the report on the exhibition of this class of articles made by Dr. Anderson, a British juror, extracts from which we republished early last year, it was characterized as "a magnificent display of "refined mechanism, rich in new ideas, full "of fresh instruction, and most encouraging "in promise of the future." Next to the marvelous accuracy of the tools shown by the American exhibitors, the most striking feature of the exhibit was the display of special tools for all sorts of purposes. It has been these two features of our machine tools that have given them such a reputa-tion abroad, and led to their purchase by tion abroad, and led to their purchase by nearly every government in Europe, for use in their dockyards and arsenals. Most of the machinery used in the manufacture of small arms by several European governments is of our Springfield type, and considerable of it has been made in this coun try. A great deal of the machinery in Russian arsenals is from this country. William sian arsenals is from this country. William Sellers, of Philadelphia, has furnished some Sellers, of Philadelphia, has furnished some, and Pratt & Whitney shipped in April, to the Bureau of Engineering of the Russian government, a large invoice of tools, including lathes, planers, drills, milling machines, screw machines, grinding machines, &c. This firm has also sold the Navy Department of the British government a milling machine and planer, and some combination lathe chucks

As a measure of revenue, the new Can adian Tariff has not thus far proved a suc cess. The revenue received from custom during the six weeks between March 15 and April 30, which comprise the period during which the amended tariff has been in operation, was \$935,077. For the corresponding period of last year it was \$1,492.506. This shows a loss of revenue under the tariff of \$547,007. With this falling off in customs revenues amounting to about 67 per cent, we have a loss of trade represented by a shrinkage of \$5,021,449 in the value of imports, which appears from a comparison of the statistics of the two periods named. At At this rate the government will have but a poor showing to make at the end of the

The steel made from Cleveland iron with the aid of the Thomas-Gilchrist process, is now being applied to various uses to test its quality. Recently, for instance, Messrs. Holdsworth, of Stockton, England, manufactured slit nail rods from ingots made from steel made by Messrs. Bolckow, Vaughan & Co., specimens of which were pro-nounced to be of excellent quality.

### A Large and Prosperous Trades Union

In 1851, a number of trade societies in England merged into one union, called the "Amalgamated Society of Engineers, Machinists, Millwrights, Smiths and Patternmakers." This union is a very large and powerful one, which has, during its 28 years of existence, reached a membership of 45,408, and controls a balance in hand, exclusive of branch and other property, of \$1,277,000. There are 399 branches of the society, distributed as follows: England and Wales, 291; Scotland, 41; Ireland, 14; Personal Control of the society of This union is a very large and British colonie nies, 20; foreign, 3; and United From this it will be seen that States, 31. the society has succeeded in gaining quite a foothold even in this country. A person seeking admission into the society must have worked at the trade for five years be-fore the age of 21, and be able to command the current wages of the district where he is working when proposed as a candidate. of entrance fees ranges from \$3.63 for those under 25 years of age, to \$14.52 for those not exceeding 40 years of age, above which age no one is permitted to join. The contributions are fixed at 24 cents per week, but in case the funds are reduced below \$14.52 per member, this sum may "be increased by such sum per week as will sustain the funds at that amount."

The benefits provided for in the rules are:

Sickness, \$2.42 per week for 26 weeks, and Sickness, \$2.42 per week for 26 weeks, and \$1.21 per week afterward, so long as the illness continues; funeral benefit, death of member, \$58.08; member's wife, \$24.20; accident benefit, \$464; superannuation, from \$1.69 to \$2.42 per week, according to his term of membership; out-of-work pay, \$2.42 per week for 14 weeks, \$1.69 for 30 weeks, and a further sum of \$1.45 per week alone a be continued out of employment: so long as he continues out of employment; emigration benefit, \$29.04; and strike pay, \$2.42 per week, with extra by levies.

The net income of the society, almost entirely derived from contributions, fines and levies, was \$600,000 in 1878, while the total levies, was \$600,000 in 1878, while the total expenditure was \$714,000, an excess of outlay over income of \$114,000. The chief item of expenditure was the sum of \$365. That the firm of Jones & Laughlins item of expenditure was the sum of \$365. That the advice of counsel could not issue it in good faith, but maliciously, item of expenditure was the sum of \$365. That the advice of counsel could not issue it in good faith, but maliciously, item of expenditure was the sum of \$365. That the advice of counsel could not issue it in good faith, but maliciously, and it is a significant indication for shelled Jones & Laughlins from responsibility and Alderman Haughton opposing it.

I. That the circular was faise in some sooner or later, create discontent among saving of many millions of dollars annually saving of many millions of dollars annually from the present cost. A bond in the sum that the circular was faise in some sooner or later, create discontent among saving of many millions of dollars annually from the present cost. A bond in the sum of \$50,000 is to be given to the city for the leave Chariton on Wednesday for Brest, replacing, under the direction of the Commissioner of Public Works, all pavement taken called in justice of allowing American manufactures.

the depressed condition of English machinery and engineering industries, that this sum is greater by \$95,000 than that disbursed for a similar purpose in the preceding year, 1877. No less than \$116,000 were expended for the relief of sick members, while \$76,000 went to the aged and infirm, and \$38,000 were disbursed as funeral allowances. The cost of management footed up \$73,000. Only \$13,000 were voted for the maintenance of strikers, and \$10,000. naintenance of strikers, and \$10,000 were actually spent for that purpose, and it is a fact well worthy of attention that of all the amounts paid out in 28 years, aggregating a total of \$7,345,000, only \$111,000 were squandered as "sinews of war." Notwith-standing the fact that during the last year the drain on its resources has been great, it has stood the strain well, which shows how powerful an organization it is. As \$26,000 of its income, or the parcent, was derived powerful an organization it is. As \$20,000 of its income, or 4 per cent., was derived from the United States, it will be seen that in this country, which has 8 per cent. of its branches, it is represented by many organbranches, it is represented by many organizations which are numerically weak. We do not think that any foreign society can long retain the allegiance of those who make their homes in this country. Among the more intelligent immigrants there are many who never become citizens, but their who never become citizens, but their children know no sentiment of loyalty to the mother country, and inherited prejudices disappear in the crucible of a political system which has thus far fused the most antagonistic elements into the homogeneous nationality we call the American people.

### Warnings Against Alleged Infringements of Patents

The editorial article in our issue of May 15th, under the above title, has called out the following tardy communication from Messrs. J. B. Young & Co. The only comment we consider necessary is that we fail to see, from reading this communication and rereading the editorial to which it refers, rereading the editorial to which it refers, wherein we did any one injustice. The case is of interest at all only as involving questions of law touching what has become a very common custom in the trade—the publication of circulars warning manufacturers and dealers against alleged infringements of patents. We are sorry to learn that the case cannot be appealed. In our judgment, the question of malicious our judgment, the question of malicious libel turned upon whether, under their pat-ents, Jones & Laughlins had a right to claim both process and product, and to warn the trade in good faith against incurring the liability liability which, in their judgment, would attach to the use of the Seaman Rolls. On such a point the decisions of a State court are worth nothing:

PITTSBURGH, June 17, 1870 To the Editor of The Iron Age.—Dear Sir: In an article, "Warnings against Al-leged Infringements of Patents," published leged Infringements of Patents," published in your issue of May 15, 1879, you have, we believe unwittingly, incorrectly stated, in some material points, the facts in the case of Seaman et al. vs. Jones & Laughlins. That was an action for the malicious publication of a circular which falsely stated that all persons who use "Seaman Rolls" for rolling, finishing or polishing iron or steel, so as to produce a smooth or polished surface, are infringing rights secured to Jones & Laugh lins by letters patent for cold rolling and polishing iron or steel. The circular pro-hibited the use of the "Seaman Rolls" in rolling iron or steel, hot or cold, while the letters patent of Jones & Laughlins for polishing iron or steel require the metal to be in an absolutely cold state, "devoid of arti-ficial heat," before it is rolled. The process The process on "Seaman Rolls" requires heat in the iron or steel, in order to obtain the bright blue finish which is distinctive of its pro blue finish which is distinctive of its pro-duct. The judge, on the trial of the case, ruled that the process used on "Seaman Rolls," and described in his patent, was not an infringement on the patent of Jones & Laughlins, for polishing iron or steel. Indeed on the trial of the case this was virtually admitted by two of the partners of Jones & Laughlins, who were examined as witnesses. Thus the case stood, that the circular was false as to the polishing process. Jones & Laughlins, however, claimed in addition that the process described in the Seaman patent was an infringement of their letters patent for cold rolling iron or steel. They introduced patent reissued in 1876 to sup-port this claim. The original patent spoke validity of the reissue in 1876, and the court rejected the offer. This left the case with the reissued patent only in evidence, and in that one it is said that "cold rolling" may that one it is be begun while the iron or steel retains some artificial heat. Jones & Laughlins then claimed that "Seaman Rolls" were used for rolling iron or steel so as to infringe this re-Numerous witnesses were examin issue. Numerous witnesses were examined on either side, and the result of the evidence was this

I. That in rolling steel on "Seaman Rolls" it was rolled at as high, if not at a higher, degree of heat than was ordinarily used in 1859, and hence it was hardly com-batted, but that there was no infringement

in rolling steel.

2. Small-sized iron bar, such as are rolled
on No. o of "Seaman Rolls," are rolled at substantially the same temperature as they

substantially the same temperature as they were before 1859, and hence there was no infringement as to that.

3. The court left it to the jury to say whether the larger bars of iron rolled in the manner prescribed in Seaman's patent were rolled at such a temperature as to amount as "cather rolling".

to "cold rolling."
The jury found for plaintiffs and the court entered judgment on the verdict.
The court did not charge that rolling at a

red heat was an infringement of either of Jones & Laughlin's patents. They did charge that to enable the plaintiffs to recover the jury must find,

1. That the circular was false in some

for malicious publication of a falsehood, but that advice of counsel should be considered by the jury in passing on the question of

The plaintiffs claimed that the advice of counsel referred to was given on a partial and incorrect statement of the mode of roll-ing on "Seaman Rolls."

ing on "Seaman Rolls."

The defendants cannot remove this case to the United States courts, nor is the jurisdiction of State courts in these actions doubtful. The Supreme Court of Pennsyldoubtful. The Supreme Court of Pennsylvania in the following cases have so ruled: Bellas vs. Hays, 5 Searg, and R., 427. Slemmer's Appeal, 58 Pennsylvania St., 155. By the verdict and judgment in this case the falsity of the Jones & Laughlins circular is conclusively established.

This is a true and fair statement of the case; and while we don't propose to raise any guestion as to the case; and while we don't propose to raise

case; and while we don't propose to raise any question as to the publication of the article referred to, we must say that we think we have been unfairly treated, more particularly in the editorial comments. This, we think, will clearly appear to you on comparing your article with the foregoing, and we think further that you will make the amend necessary, as far as possible, to counteract the article referred to, which we onceive to have injured us about as much s the J. & L. oircular, and this was no

We leave the manner of rectification to you, but rectification we claim as our right Yours, truly, JAMES B. YOUNG & Co.

The following is the circular in which Messrs. James B. Young & Co. announce the decision awarding them 6% cents dam ages, with costs to the defendants:

PITTSBURGH June v 1870 To All Whom it May Concern: Notice is hereby given that in the Court of Common Pleas No. 2, of Allegheny County, Pennsylvania, we brought an action against Messrs. Jones & Laughlins for the issuing by them of their circular, dated August 1, 1877. of their circular, dated August 1, 1877, wherein they assert that the use of "Sea-man's Rolls," for the purposes therein named, is an infringement of Jones & Laughlins letters patent for cold rolling and polishing letters patent for cold rolling and polishing iron and steel, which circular we claimed, in said action, to be false and defamatory. Upon the trial of this action the jury found for us, and on this verdict the Court, on June 2, 1879, entered judgment against Jones & Laughlins, and in our favor. The issue of this circular is deemed proper to correct any misapprehension created by Jones & Laughlins' circular, and we trust that this judicial determination of the incorrectness of the latter will satisfy the public that they can safely purchase and use the Seaman Rolls. Very respectfully yours, Very respectfully yours, James B Young & Co.

### The Outlook for British Trade and Industry.

Col. Shaw, U. S. Consul at Manchester, in Col. Snaw, U. S. Consul at Manchester, in a recent report to the State Department, discusses as follows the position of and outlook for British trade and industry:

The exceptional condition of national af-

fairs, first, during our civil war, and second, during the Franco-Prussian almost immediately following, led to vast additions to the producing power of manufacturers in Man-chester. The almost unlimited demand for the manufactures of cotton, woolens, steel and iron, impressed capitalists with a belief that a lasting trade had been secured, and immense sums were expended in building new factories and promoting new enterprises. The return of peace was followed by an unexpected and wonderful develop-ment of manufactures, both in the United States and in other countries, and, as a con-sequence, the prosperity of Manchester manufactures received a serious check. What the result is to be no one is now able to divine. Many believe that the "free What the result is to be no one is now able to divine. Many believe that the "free trade" policy of England must be changed, in view of the attitude of friendly powers upon commercial policies, to save her manufactures from ultimate ruin; more hold that the hard times are caused by overproduction at home and widespread financial depression abroad, and that the dangers of the present will pass away with the advent of prosperous times. A small minority proprosperous times. A small minority prophesy that the United States are about to prove able to successfully compete with all the world on even terms, and then out-strip them all in commercial rivalry for first place. Finally, a great majority are waiting

countries whence these were exported. If, therefore, competition becomes so keen the Common Council, were present. The raw materials to convert there into the common communication was present. materials, with a view of manufacturing the same, and selling their products to the raw materials to convert them into manufactures at home, and then substitute manufactures for exportation in place of raw materials, there will be a strong likelihood that the present commercial policy of England will eventually be modified by establishing a duty on certain classes of manufactures, so as to compel the exportation of the raw materials again. and frequent articles are constantly appear ing in English newspapers, complaining bit-terly about foreign tariffs, and pointing out that, while the markets here are free to all, the tariffs of other countries, in many lines, practically shut out the English manufac-turer. Public sentiment is evidently undergoing considerable change in regard to the advisability of continuing the present trade policy here, in view of the fact that other nations, which are sharp competitors with England for an enlarged commerce, hold to so-called "hostile tariffs." The present distress among English manufacturers will. distress among English manufacturers will, if not speedily relieved, assume alarming proportions. Indeed, it has already become more serious than the general public are aware. In view of this condition of commercial affairs, the constant, and in many lines the increasing, shipments of American manufactures into Great Britain must,

markets are not profitably accessible English manufactures, owing to the tariff.

The result, it may reasonably be expected, will be the imposition of a tariff upon American manufactures, and this, too, at a not ican manufacture very distant day.

very distant day.

The popular sentiment, now, it is undoubtedly true, is overwhelmingly in favor of free trade; but, with increasing distress among manufacturers, with drooping industries and failures or every head, with dis tries and failures on every hand, with dis-contented and idle operatives, it is only reasonable to expect that English manufacturers will, as a measure of relief and a promise of better results, insist on "reciocity in trade or reciprocity in tariffs. is easy to favor free trade so long as it is profitable for manufacturers to do so; but when it invites ruinous competition from abroad, without extending free markets, it does not generally take long for this vitally-interested class to change their minds about the wisdom or practicability of any commer-cial policy and clamor for a change of laws. At present some of the ablest writers in England are endeavoring to account satis-factorily for the widespread depression in the great manufacturing strongholds of the

The supplementary report contains the following observations with respect to the present state of industry in Great Britain:
A very large majority of the manufacturers have lost money on the operations of the year, while many mills have been per the year, water many minis have been permanently closed. The distress that has prevailed during the past two months among operatives has been even greater than it was during the great cotton famine in 1864. The winter has been exceptionally severe, and business of all kinds exceptionally depressed. The demand for English manufactures from chosed has fallen off to an extent unabroad has fallen off to an extent un-known in late years, and there appears no immediate prospect of a revival of trade. The outlook is regarded with increasing The outlook is regarded with increasing forebodings by those best able to form reasonably accurate opinion of the prospects for manufactures in the near future, so far as Lancashire is concerned. The causes which have brought about this state of trade are not yet clear to the great majority in England, and there is a wide difference of opinion as to the means best adapted to en able the manufacturers to regain their for mer prestige and secure the return of com parative prosperity. The present law regulating the hours of labor—limiting them to 56 hours a week—is believed to act to the disadvantage of manufacturers here, inasmuch as American operatives work longer time per week in the a The general depression in all branches of trade at present, together with increasing duliness in all commercial enterprises, are so patent to all, that it is now simply a question of more work and less pay or no work at all This view is for a vast army of operatives. having its influence on the working classes and the changes named will undoubtedly fol-low; still, discontented operatives, especially in England, are an element exceedingly dif-ficult to manage, and the outlook is far from being satisfactory to the vital interests of manufacturers. There has been much sen-timental legislation brought to bear upon the

seriously felt in many manufacturing cen My observations among the operatives ere lead me to believe that the fashion of beer drinking" is a great drawback to their efficiency. In many instances, hus-band, wife and children drink beer, and often in large quantities. This habit breeds much misery. It deadens the healthy phy-sical powers, weakens the intellect and robs the pockets of operatives. It must, in a majority of cases, tend to lower the standard of skilled labor, and in all cases increases of skilled labor, and in all cases increases the burden which is now pressing so heavily upon manufacturers, in this, that the habit is expensive, and this expense enters into the question of wages. If English operatives should cease drinking beer, it would, as a rule, enable them to accept a reduction of more than 10 per cent. in wages as compared with present prices, and still make equal provision for the support of their families.

abstract and commercial question of capital

and labor in England during the past few years, the evil results of which are being

years, the

### Steam Heating for New York.

like a multitude watching the archer's arrow shot into the air, wondering where it will come down and if they are in danger of being struck by it in its fall.

The policy of England has long been to encourage the free introduction of all raw materials, with a view of manufacturing corder Hackett, Controller Kelly, Chamberthe same, and selling their products to the

-GENTLEMEN: In behalf of myself and my —Gentlemen: In behalf of myself and my associates, I respectfully call your attention to the great benefits the city and its inhabi-tants will derive by the introduction of "Holly's steam combination system" for heating, cooking, and all other purposes for which steam can be used when introduced classes of he exportation which steam can be used when introduced by this system. In the first place, it will be a saving of not less than \$150,000 a year in the heating of the public buildings. It will also save the city from \$300,000 to \$500,000 per annum in the removal of ashes from the dwellings, and snow and ice from the principal streets and avenues. Also a large saving by the furnishing of steam for the fire engines of the city. The city will also receive \$150,000 from the company for the receive \$150,000 from the company for the permission to lay the pipes for conveying steam in its streets and avenues, and a further compensation of 3 per cent. of the earnings of the company, after they have earned and paid a dividend of 10 per cent. upon their capital stock. The system, when fully developed in this city, will reduce the rates of insurance upon all kinds of insurable property of the business community at least one-half, when the shops and storehouses can be heated without the aid of fires to be

up, or in any way disturbed, by the laying of the pipes, while its cleanliness and many advantages to the housekeeper cannot be estimated too nighty. The Holy system heating is no longer an experiment, but a fully developed, practical invention, which, in a very few years, will be generally need throughout the country. Very respectfully, Francis B. Spinola, respectfully, Francis B. Spanoan,
For Himself and Associates.

At the previous session ex-Judge Pierrepont applied to have the grant given to Spinola and his associates, to lay steam mains south of Chambers street, amended so as to permit the mains to be laid north of that thoroughfare. It was finally decided to allow them to use the section of the city south of Caual street for the purpose. The Commissioners subsequently requested the Corporation Counsel to embody in legal and approximate the composition of the compo priate language the terms, restrictions and limitations on which they proposed to grant the privilege asked for by Spinola and his the privilege asked for by Spinola and his associates, and the latter, in compliance with their request, revised the original resolutions on the subject. The conditions read as follows:

First.—That in all cases where the pave-

First.—Into in an clases when the purpose of ments are to be disturbed for the purpose of laying or repairing said mains, a permit therefor shall be obtained from the Commistherefor snan be contained and the grantees, sioner of Public Works, and the grantees, before taking out such permit, shall file with the Controller of the City and County of the Controller of the City and County New York a bond for \$50,000, with suffici and adequate security, to be approved by the Controller, to be renewed from time to time as the Controller may require, as a guarantee that the pavements of the streets and sidewalks shall be restored in as good condition as they were found at the time they were disturbed to lay said steam pipes, and entirely to the satisfaction of the Co missioner of Public Works; and, unless this missioner of Public Works; and, unless this be fully complied with, the proper authorities shall be fully empowered to commence legal proceedings against the signers of the bond, for the amount which it may have cost the city to restore said pavements in good condition. The pipes shall be laid under such regulations as the Commissioner of Public Works may from time to time establish, and he may prescribe on the permit, and if at any time the Commissioner of Public Works he may prescribe on the permit, and if at any time the Commissioner of Public Works shall direct any changes to be made in the location or arrangement of said steam pipes for the purpose of the laying, altering, or removing city water pipes or sewers, or do-ing any other public work, such changes shall be made by the grantees at their own shall be made by the grantees at their own expense, under the direction of the Commisioner of Public Works; and in no case shall the city be liable for any injury or shall the city be hable for any injury or damage to the said steam pipes, and in laying said steam pipes the grantees shall in no wise interfere with any sewers, water pipes, or other pipe theretofore laid, without the consent of the Commissioner of Public Works and the owners of said pipes.

Second.—The grantees shall supply all the term required by the city for any any any and the control of the control of

Second.—The grantees shall supply all the steam required by the city for any purpose in the streets, or the parts thereof, in which the steam pipes are laid, or for heating any public building now or hereafter located therein, at 25 per cent. less rates than steam is furnished by them to their most favored is farnished by them to their most favored customer. And the grantees shall authorize customer. And the grantees shall authorize the city to use for public purposes, without royalty, any patented appliances or apparatus for the use of the steam supplied by the grantees, which the grantees shall authorize or license any person to use.

Third.—Said Francis B. Spinola, for him-

self and his associates, whenever requested by the proper authorities having charge of such matters, shall furnish steam for purpose of cleaning the principal streets, public places and avenues from snow or ice, and also supply steam for the use of the fire engines, at reasonable rates, wherever their

mains and pipes shall be laid.

Fourth.—Said Francis B. Spinola, for himself and his associates, shall pay into the Sinking Fund, for the benefit of the City of New York, the sum of 3 cents for each lineal foot of mains and pipes laid by them beneath the carriage or road way of any street, avenue, or public place in the city, until such payments shall have amounted to \$150,000, after which the said payments shall cease and terminate, and in addition to said 3 cents for such lineal foot, in each year in which the company's earnings shall exceed 10 per cent. on the amount invested, the next 3 per cent. earned in the same year, over to per cent. on the amount in-vested, shall be paid into the City Treasury to the credit of the Sinking Fund for the

to the credit of the Sinking Fund for the redemption of the city debt.

Fifth.—That Francis B. Spinola, for himself and his associates, be authorized to lay mains or pipes within the district in the City of New York, south of Canal street, in a direct line from the North to the East River. And after having laid the pipes in said district to the satisfaction of the Commissioners of the Sinking Fund, then the said Francis B. Spinola and his associates are hereby granted permission to lay pipes in all the streets, lanes, alleys and places in the city, under the terms, limitations, restrictions and conditions hereby fixed.

Sixth.—That the right to lay steam pipes shall cease and determine at the expiration of three years from this date, unless the grantees shall, within that time, have constructed the apparatus and laid the pipes necessary to supply steam in 25 miles

These conditions elicited considerable discussion. Mayor Cooper said he was opposed to them, and contended that the city should receive a much larger revenue from the undertaking. The question was finally put, and the Controller, the Recorder, the Chamberlain, and Alderman Haughton voted in favor of giving the franchise to Spinola and his associates on the terms named, the Mayor being in the negative. A resolution was then adopted rescinding the one previously passed, providing that the action of the commissioners should be subject to the approval of the Common Council. This was carried by the votes of the Controller, the Recorder, and the Chamberlain, the Mayor and Alderman Haughton opposing it.

### INDUSTRIAL ITEMS.

### MASSACHUSETTS.

At the Iron Works Rolling Mill at Fall River, a new 9-inch mill, to roll merchantiron, is being erected in place of an old one. The new mill will have a capacity to turn out a train ten rolls in length, but all the rolls will probably not be in at the same

### NEW YORK.

A few days ago the men employed in the Auburn Iron Works presented the proprietors, Messrs. Tuttle, Reed & Dennison, with handsome canes as tokens of respect and regard.

Mr. Brockway, superintendent, made the speech of presentation, and the made the speech of presentation, surprised recipients of the favors me entation, and the able acknowledgments. Mr. Tuttle then turned the tables by presenting Mr. Brockway ion was a pleasant one a cane. The occas and shows that in this instance the relations between masters and men are all that the friends of peace and good will could desire.

### PENNSYLVANIA.

A dispatch from Allentown, under date of the 21st inst., says: "On Saturday morning, July 14, 1877, an explosion of a boiler took place at an ore mine on the lands of Mink & Sterner, near East Texas, whereby eight lives were lost. That explosion was the most serious that had ever occurred at this mine. An explosion occurred to-day by which, it is feared, the loss of life will be equal, if not larger, than that occasioned by the explosion nearly two years ago. The scene of the explosion to-day is about five miles west of Allentown. The mine is worked for the Lehigh Iron Company, of this city, the contractors being Joseph Kiefer and Frank Fegley. The latter was one of the victims. The explosion occurred just before 6 o'clock, at which time the men were to go to work. Four men were instantly killed, two injured so terribly that they died several hours later, and a number of others wounded, some seriously.

Grove Brothers, Danville, are still repair-

ing, preparatory to resuming work in Co-lumbia Furnace. They are now putting

their 132 dump cars in order.

"Tubal Cain," in the Sharon Herald of the 20th inst., says: "In Sharon, for the week ending June 7, at the Old Mill, 18 furnaces off; the muck mill and the hoop mill double turn from Wednesday morning; sheet and plate mill single turn; nail facsheet and plate mill single turn; nail factory went on Thursday morning; spike factory two days. On Monday of present week all the boiling furnaces, and everything else that usually works double, will go on double turn. At the Atlantic Works, puddle, guide, bar and both hoop mills double turn, plate mill and nail factory full time. Stewart Iron Works, furnace No. 1 working to its average. In West Middleson, the Fanny art Iron Works, furnace No. 1 working to its average. In West Middlesex, the Fanny Furnace went out on Saturday. It made a blast of 23 months, lacking 4 days, and will average about 35 tons a day. Workmen are engaged in cleaning it out."

The Pennsylvania Iron Works, Danville, have now 16 puddling furnaces in operation on double turn, and it is probable their rail mill will be started by the 30th inst.

The Lancaster New Era says that it is reported that a company of gentlemen have made an offer to purchase the Safe Harbor Iron Works, in Lancaster County, with the

Iron Works, in Lancaster County, with the view of putting them in operation. PITTSBURGH AND VICINITY.

Wilson, Walker & Co., having completed repairs in progress for some two weeks past, started up this week single turn.

J. Painter & Son's mill is running full double turn. This mill has 52 puddling

H. Lloyd's Sons & Co., Kensington Iron

Works, have started up in all departments.
Singer, Nimick & Co.'s Sheffield Steel
Works are in operation in all departments,
excepting the large sheet mill, the housing
of which broke week before last, not having been replaced yet.

Lewis, Oliver & Phillips' mill, on the South

Side, is running in all departments.

Zug & Co.'s Sable Iron Works are undergoing extensive repairs and improvements. OHIO.

The Enterprise Manufacturing Company, of Geneva, held their annual meeting for the election of directors, on the 3d inst., at which time they declared an annual dividend of 10 per cent., against 8 per cent. last year, showing a gratifying increase in their business. Sales for past year, \$50,000, an pusiness. Sales for past year, ₹50,000, an increase of nearly 50 per cent. over the preceding year. This concern is just now particularly busy with their ice tools, &c., for which they have large and increasing

The Lima Machine Works, now in their tenth year, are full of work and running 60 hands. They have just shipped a complete flouring mill to Milton Center. Also a large sawmill, with engine complete, to Franklin County. They have in hand the boilers, shafting, hangers, &c., for the Lina Bagging Factory.

Mount Vernon Furnace is doing unusually

well as to quality, making 16 tons of strictly No. 1 foundry iron per 24 hours. This year's

blast is intended to reach 3400 tons.

The Belfont Iron Works are erecting twenty houses on their ore lands near Centre station, to be used as dwellings for the

employees.
E. J. Bird, Sr., superintendent and founder of Etna Furnace, has lately made important changes in the construction of the important changes in the construction of the stack, by completely removing the Ferrie plan, whereby the total hight of the furnace proper is now 86 feet, with a 19-foot bosh, 7-foot hearth and 13-foot top, or a total capacity of 16,550 cul i feet. There are now five 5½ to 6-inch tuyeres, and everything about the furnace is in readiness to start operations within three days after the arrival of the coke.

FOR S

### KENTUCKY.

The Norton Furnace is making from 60 to 65 tons of mill iron daily, using 65 bushels of fuel (one-third Fire-creek coke and two-thirds raw Coalton coal) and one-third native, one-third Iron Mountain ore and one-third milling machines, in good order.

THE INTERCHANGEABLE TOOL CO., No. 59 Hudson St., New York.

A GENTLEMAN OF EXPERIENCE, WELL acquainted with the manufacture of Start

### MICHIGAN.

The Green Bay Blast Furnace, which has been idle for a long time, was sold at public auction week before last, the successful bidder being the National Furnace Co., of Depere, and the amount of their bid \$7550. It is the intention of the new owners to put the furnace into blast at an early day.

A Fruitful Cause of the Breakage of Locomotive Axles.—For some time it was suspected by the officers of the Frankfort and Bebra Railroad, Germany, that the practice of casting white-metal bearings around steel axles had been the primary cause of several breakages on the above lineary. line, and a series of experiments were un-dertaken to ascertain the possibility of such being the case. By repeating the casting process a number of times on the same axle, it was found that in every case, and with every kind of steel tried, cracks appeared sooner or later, sometimes on the second trial, sometimes not till the forty-fifth. The white metal used contained 7 parts copper, 14 parts antimony, and 79 parts zine, and melted between 810° to 932° F. These experiments, therefore, tend to show that the common plan of casting white metal round the axle is a fruitful source of danger.

A New Comet.-Professor Swift, of Roch ester, discovered a new comet on the 20th inst., in constellation Perseus, right ascension, two minutes thirty seconds; declination north, 58 degrees. It is quite bright, of a strong condensation, and has a short tail, moving about one degree per day, east of north

### Special Notices.

### PARK BENJAMIN'S

# Scientific Expert Office,

37 Park Row, New York.

PARK BENJAMIN, Ph. D., Editor Appleton's Cyclopædia of Applied Me

chanics; late of Scientific American. Testing, Designing, Construction and Selection

of Machinery.

Editing and Publication of Trade Literature and Scientific Works,

Expert Mechanical and Scientific Evidence in

Expert Mechanical
Law Suits.

Expert Advice on Inventions and on all Scientific
and Mechanical Subjects.

Engravings, Chemical Analyses, Assays,
Factories fitted up. Selection and purchase of
Laundry Machinery and Supplies.

### Mount Carbon Rolling Mill Machinery, Fixtures and 130 Acres of Land,

### FOR SALE AT AUCTION, WEDNESDAY, July, 9th, at 2 o'clock p. m., on the premises near Potts ville, Pa.

at 2 o'clock p. m., on the premises near Pottsville, Pa.

The Mill building having lately been destroyed by fire, the property is hereby offered for sale as above, cocision of the sheeby offered for sale as above, cocision of the sheeby offered for sale as above, cocision of the sheeby offered for sale as above, cocision of the sheeby offered for sale as above, cocision of the sheep offered for sale as above, cocision of the sheep offered for sale as above, cocision of the sheep offered for sale as a sheep of the sheep

S. VAN WICKLE, Trustee, 111 Broadway, 44 Trini'y Building, NEW YORK CITY.

### IMPORTANT TO IRON MANUFACTURERS.

A large Rolling Mill is now offered for sale on such conditions, as to price and terms of payment, as to deserve the special attention of parties in the iron trade. These works are located in a large city in central Pennsylvania, and contiguous to the track of the Pennsylvania Railroad; well constructed buildings, slate roofs, puddling furnaces, rolling mill, machine shops, foundry, &c., &c., in separate buildings, with all necessary machinery, tools, &c., in complete order, and all ready for immediate use. These works have all modern improvements and facilities for iron manufacturing purposes, and possess some special advantages. Upon examination this will be found an opportunity seldom met with to engage in a large and profitable business. For further particulars address. ity seldom met with to engage in a large and pro-fitable business. For further particulars address, H. TORREY, Office of *The Iron Age*, 220 S. 4th St., Phila., Pa.

### Wanted.

By Corrugated Metal Co., East Berlin, Conn. punch suitable for punching flanges of channe bars for rivets. Also a machine for straightening

### To Inventors and Others.

We would be pleased to correspond with any person having a good saleable article which they want manufactured, or any new machine or mode they want constructed.

> D. GILBERT & SON, 212 Chester St., Philadelphia, Pa.

# NAIL WORKS at Towards, Pa., for sale or lease; 6 furnaces, 24 nail machines, with all the necessary ma

chinery and tools. Works nearly new and in good order. Will be sold or leased on reasonable E. T. FOX, Towanda, Pa

### FOR SALE, CHEAP,

thirds raw Coalton coal) and one-third native, one-third Iron Mountain ore and one-third mill cinder.—Greenup Independent.

The Norton Iron Works, Ashland, made 5500 kegs of nails week before last, which is said to be the biggest one week's work they have ever done since the works were built.

Address, Office of The Iron Age, 83 Reade St., New York.

### Special Notices.

# Large Sale of Machinists' Tools.

Having purchased nearly the entire equipment of tools belenging to the AUTOMATIC BOOK SEWING MACHINE Co., of Millford, Conn., I will expose the same for examination and sale at said Works, until the soft inst., after which time the tools remaining unsold will be removed to New York City. These tools are nearly all of the Pratt & Whitney Co. make, and are practically new. The Belting, Vises, and small tools will be included in above offering. offering.

I guarantee every machine in this lot to be incerfect working order.

### E. P. BULLARD,

Dealer in Machinists' Tools, Engines &c. 14 Dey Street, New York.

PRATT & WHITNEY CO. TOOLS.

PRATT & WHITNEY CO. TOOLS.

be Planer, to plane 24 in. x 24 in. x 5 ft.

considering the plane 24 in. x 25 in. x 5 ft.

considering the planer of 12 in. Planer Centers.

considering the planer cente

2. 1, 3 " 2 spindles geared for heavy b. 2, 4 b. 4, Fower Milling Machine. 0, 2, or Lincoln Pattern Milling Machine. 1, 3, Hand Milling Machine. ffter Girling Machine.

Cutter Grinder.
Cutter Grinder.
Tapping Machine, 2 counter-shafts.
No. 3, Screw Machine.
No. 4, " " wire feed. rew Slotting Machine. uble Cam Cutting Machine

MISCELLANEOUS TOOLS.

One Engine Lathe, 18 in. x 8 ft. Putnam Machine Co.

# EXECUTORS' SALE

# ANTHRACITE BLAST FURNACE.

The subscribers, executors of the last will and testament of Peter Uhler, late of the Borough of Easton, Pa., seceased, will sell at public sale, at the Circle, in said Borough, On THURSDAY, June 26, 1879,

On THURSDAY, June 26, 1879, at 20 clock p. m., a that certain ANTHRACITE BLAST FURNACE, located in the Borough of Glendon, about two miles from Easton. The tract of land contains about 15 acres, and lies between the Lehigh Canal and Lehigh River, just below the Chain Dam. The furnace erected thereon is a Sheet Iron Casing Stack, 14 feet bosh by 70 feet high, with closed top; I. P. Morris & Co.'s low pressure condensing engine, eight bollers; two Kent's hot blast ovens, casting house, engine house, steam hoist, &c.; eleven good tenement houses, two stables and a blacksmith shop. The furnace buildings are of brick and stone, and put up in the best manner with all the modern improvements. The works were built in 1871, and are in good order and nearly ready to blow in. Stock can be supplied by canal or railroad. Hematite ores can be delivered to the furnace for \$2.65 per ton, and limestone for 30 cents per ton. The terms and conditions will be made known on day of sale by S. L. UHLER, E. I. HUNT, Executors.

### LEIGH'S

## MERCANTILE DISCOUNTS

(5 % to 821/2 % and all the combination Arranged in three parts: I. Comparative Discounts, II. Comparative Net Prices, III. Computing Tables.

Every business man buying or selling by LIST AND DISCOURT," should have this book. All Mailed postpaid to any address for ONE DOLLAR. EDWARD B. LEIGH, Address

Or either of the Publishers, viz : IVISON, BLAKEMAN, TAYLOR & CO., New York. R. & T. A. ENNIS, St. Louis.

### Wanted.

A party visiting the wholesale trade of the Missipi Valley and adjoining States north of St. Louis, desires to perfect an arrangement with a Sheet Iron mill to sell their line to above trade on A VALUABLE PROPERTY FOR SALE Sheet Iron mill to sell their line to above trace of commission, or such terms as would best suit Five years' acquaintance in the trade mentioned. Address

Office of The Iron Age, 83 Reade St., N. Y.

TO MANUFACTURERS AND CAPITALISTS.

### FLOWER PINS. A new article of light wire, recently patented. Patent offered for sale. Correspondence solicited.

Address J. H. PLUMMER.

1276 Pacific Street, Brooklyn, N. Y.

HARDWARE BUSINESS FOR SALE.

The stock and store in a fine town in Western New York; established over 25 years. Store a very handsome one, in perfect repair, and built expressly for the business. The stock is an exceptionally good and clean one, has no poor goods and will invoice about \$4000. Good reasons will be given for selling. To a good party a rare chance is here presented to secure at once a fine and prosperous business. Address,

Office of The Iron Age, 83 Reade St., New York

### Wanted,

A Guide Mill Finisher, competent to take entire charge of an 8-inch mill. A good situation. Steady employment.

Apply with reference to DIAMOND STATE IRON CO.,

Wilmington, Delaware, WANTED.—A manufacturer of faddlery ware wishes to give samples to a good traveler to sell goods on commission.

Address, with references,

Office of The Iron Age, 83 Reade St., New York.

# Sanderson Bros. Steel Co.

# A limited number of shares for sale by EDWARD FRITH & SON, 241 Pearl street, New

### Special Notices.

# Second-Hand& New Tools FOR SALE.

### June List.

The Tools in the following list are all of Wood, Light & Co.'s make, have been used, but are all in good order and will be sold very

low:

Five Engine Lathes, 15 in, swing 6 ft. bed.

Six Engine Lathes, 20 in. swing 7½ ft. bed.

Five Engine Lathes, 20 in. swing, 8 ft. bed.

One Engine Lathe, 21 in. swing 6 ft. bed.

One Engine Lathe, 21 in. swing 10 ft. bed.

One Engine Lathe, 24 in. swing 12 ft. bed.

One Engine Lathe, 24 in. swing 12 ft. bed.

One Engine Lathe, 26 in. swing 12 ft. bed.

Two Upright Drills, 27 in. swing, not geared.

Two Planers, 32 in. x 30 in. x 10 ft.

One Planer, 32 in. x 30 in. x 10 ft.

One Planer, 32 in. x 36 in. x 10 ft.

One Planer, 42 in. x 36 in. x 15 ft.

One Planer, 42 in. x 36 in. x 15 ft.

One Shaping Machine, 12 in. stroke.

Four Bolt Cutters, various sizes.

One Horzontai Boring Lathe.

The following are all new tools to be

The following are all new tools to be sold very low, and are all Wood, Lighte & Co.'s make:

Four Engine Lathes, 16 in. swing, 6 ft. bed. One Engine Lathe, 20 in. swing, 20 ft. bed. One Shaping Machine, 14 in. stroke. Seven No. 2 Bolt Cutters, with centers Five No. 2 Bolt Cutter, with center. Also the following miscellaneous Tools:
One No. 3 Stiles Press.
One Portable Engine, 6 in cylinder.
One Hand Milling Machine.
One "Pond" Index Milling Machine.
Three Chase Patent Pipe Cutting Machines.
Two Engine Lathes, 13 in. swing, 6 ft. bed. Two
Engine Lathes, 22 in. swing, 8 ft. bed. One Engine Lathes, 22 in. swing, 8 ft. bed. Three Engine
Lathes, 20 in. swing, 6 ft. bed. Three Engine
Lathes, 20 in. swing, 8 ft. bed. Six Turning Lathes,
14 in. swing, 4½ ft. bed. Three 4-spindle Drills.
One Gear Cutter. One new "Hardaway" Bolt
Heading Machine, to head up to ½ in. bolts. One new "Hardaway" Bolt Heading Machine to head
up to 1½ in. bolts. A lot of Saw Tables and
Wood Working Machinery.
Please specify which of the above tools you want
and we will forward all particulars.
The above tools will be sold very low, and can be
seen at Also the following miscellaneous Tools:

### The Geo. Place Machinery Agency, 121 Chambers and 103 Reade Sts.,

NEW YORK.

Pocket " F

BUELL LAMBERSON, No. 97 Chambers Street, - New York.
These books may also be had at publishers' prices of
WM. BLAIR & CO., Chicago,
A. F. SHAPLEIGH & CO., St. Louis, and
R. W. BOOTH & CO., Cincinnati, O.

TO LARGE CONSUMERS

of fine light Malleable and Gray Iron Castings. We can offer special inducements in the way of very superior quality guaranteed, and at fair prices. Being ourselves large consumers and re-quiring the most perfect castings, other work is ensured the same attention.

MALLORY, WHEELER & CO.,

### WANTED.

Two energetic young men as traveling sales nen. Those acquainted with the Hardware trade, especially Blacksmiths' supplies, preferred. Address.

ANVIL HORSE SHOE AND NAIL CO.,

### 69 Washington street, New York. For Sale.

All the Deck Beams of the old Elevated Rail road on Greenwich street, from Twelfth street to the Battery, in lots to suit purchasers. Also any other part of the ironwork connected with the road, excepting the rails.

Apply to

HARRISON & GILLOON,

# At One-Fourth of the Original Cost.

A new building, 40X100 feet, with brick engine house attached, with line of shafting and pulleys throughout. It was intended for an axle factory, and is offered at a very low figure to close up the company's accounts. Please address, for par-

L. A. LAWTON, HERRIMER, N. Y.

### Wanted,

To represent a manufacturing concern in the West. or would take a responsible position and locate, by a man who has had a long experience in Hardware. Satisfactory references. Address Hardware,

Care Howell Gano & Co., Cincinnati, O.

### Wanted, A Partner

with \$15,000 to \$20,000 capital, to take an interest in a large and prosperous Hardware Business, wholesale and retail, established nearly 40 years. References given and required. Address, HARDWARE, Box 10,

Office of The Iron Age, 83 Reade St., New York

# Special Notice.

The undersigned offer their services as Agents to makers of American Cabinet Hardware.
They keep a full line of UPHOLSTERERS' AND CABINET MAKERS' MATERIALS. LOUIS WINDMULLER & ROELKER, 20 Reade St., New York. Address in Frankfort-on-Main, Germany, ERWIN ROELKER.

Tion wanted by an experienced Galvanizer and Tinner. Please address, METALS, Box 293, Everett, Mass.

### Special Notices.

One 9-inch Train Rolls, One 16-inch Train Rolls, Both with Housings.

Both with Housings.
One Steam Hammer,
One Pair Shears,
One Lot Steel Ingot Molds.
Three Large Woodward Steam
Fumps,
Three Small Steam Pumps,
Two Holating Engines,
Three Steam Boilers,
One Lighthall Condenser,
One Surface Condenser,
K Fumps, Low Pressure Gauges,
Registering Gauges, &c. FOR SALE LOW BY

DANIEL W. RICHARDS & CO.,

### Scrap Iron & Metals, 88 to 96 Mangin St., New York.

### The Sherman Process Co. 9 Pemberton Square, Boston, Mass., Issue Licenses to use the Process for the

Manufacture of Iron and Steel In the Bessemer Converter, Crucible, Siemen Martin, Puddling, Blast and Cupola Furnaces. The use of this Process improves the quality of the product, saves fuel and labor, and does not re-quire any change in furnace or manner of working. See page 17 of The Iron Age of Oct. 55th, 1377.

### AUSTRALIA AND NEW ZEALAND.

### Wm. S. Fell & Co.,

Importers and Auctioneers No. 275 George St., Sydney, Australia, Request correspondence with American manufac-turers desirous of being represented in the Aus-tralian Colonies or New Zealand. Consignments solicited and prompt attention Consignments solicited and prompt attention promised, and 60 day drafts against same for 50 per cent. through Bank of British North America New York City, will be honored. All the principal points in the Colonies are visited regularly by our travelers

# JENNINGS'S DISCOUNT BOOKS.

(2 % to 85 % and all the Combinations.)

Counting House Edition (former price, \$3), size, 0x11 inches, Cloth Bound, large type, \$2.

Pocket Edition (just issued), size about 4x6 inches, Cloth Bound, small type, \$1.

Contents of both Editions are the same. Pocket Edition is very convenient for many purposes, but like PATEMT MEDICINIS, the "Largest Size is the Cheacest,"

Sent postpaid to any address on receipt of price. Currency may be sent by mail at Publisher's risk.

Address, (2 % to 85 % and all the Combination

S. H. JENNINGS, Deep River, Conn.

# For Sale Cheap.

A new No. 5 GEARED PUNCHING PRESS, Stiles & Parker's latest pattern, in perfect order. Illustrated in this paper March 20, 1879.

B. D. WASHBURN & CO.,

### Bissell & Welles. Wholesale Hardware Auctioneers.

83 Chambers and 65 Reade Sts., N. Y. Sales held weekly for the trade. Consignments olicited. We refer to the leading Manufacturers and importers.

## CALIFORNIAN AGENCY.

A San Francisco firm of File and Tool makers having an agent constantly traveling among the consumers in the State and West Coast, is desirous of representing some first-class Eastern Houses in the manufacturing hardware trade

Address AGENCY, 248 Beale St., San Francisco, Cal.

### THE IRON LINE.

For the transportation of IRON, IRON ORE, COAL, &c., Between Lake Champlain, New York, Philadel pbia, Pa., Wilmington, Del., and intermediate laces. For Freight apply to
F. W. STARK, 33 Coenties Slip, New York.
JOSEPH PHILBRICK, 1201 Beach st. Phila., Pa.

## For Sale.

10x24 Wm. Wright Engine, 15x3½ foot Pitkin Bro. Boiler, With fixtures complete, nearly as good as new. Can be seen in operation at our factory.

## STILES & PARKER PRESS CO., FOR SALE,

Job Lots and Bankrupt Stocks Hardware. Great bargains offered to the trade.

> A. W. WHEELER, 141 Lake St., Chicago, Ili.

WANTED. A partner in an established Iron manufacturing business, thoroughly competent to take charge of

office. Best references given and required.

### Office of The Iron Age, 220 S. 4th st., Philadelphia For Sale,

A plot of ground containing 15 city lots, 25 X 100, suitable for manufacturing purposes; located in Jersey City, between the Erie and the Delaware and Lackawanna Railroads. No piling; solid ground. A Spring of water at 14 feet. Suitable for a sugar house. Convenient to water front.

Address,

Montelity, N. J.

WANTED.—A first-class Bookkeeper is open to an engagement; has had full charge 13 years of large Jobbing Hardware House. Firm going out of business. Thoroughly reliable and competent. References as to capacity and integrity A1. No objection to leave the city.

Address,

Office of The Iron Age, 83 Reade St., New York.

Horizant Kan Kan Kan Lou Mico Mon New Non

WANTED.—A Roll Turner of experience and ability wants a situation, or would take the management of a Merchant Mill in connection with the Roll Turning. Address, TURNER, 1562 Vienna street, Philadelphia, Pa.

Box 293, Everett, Mass.

JUST PUBLISHED—SENT FREE.

Complete History of Wall Street Finance, containing valuable information for investors. Address Baxter at Co., Publishers, 17 Wall street, New York.

# Trade Report.

Office of THE IRON AGE, WEDNESDAY EVENING, June 25, 1820

During the past week the financial markets have been dull and with but few features of general interest. In the money market the ruling quotations for call loans have been 3 @ 41/2 per cent. on miscellaneous collateral and 2 @ 21/2 on government bonds. Time loans are quoted at almost the same rates as call loans. The discount rate on prime business paper is 3½ @ 4½ per cent. Government loans are without feature of general interest. There is a good investment demand, especially for 4 per cents., and the banks which have 10-40s in pledge to secure circulation are buying largely. Railway bonds are strong, so far as desirable investment issues are concerned, but speculative bonds are without feature. We give below the closing quotations of and cautions the trade against being degovernments. The stock market has been ceived thereby. dull, and, as it is proposed to close the Exchange from the 3d to the 7th, it is unlikely that any speculative activity will be manifested until after that date. The closing in script by the Heliotype Printing Comquotations of active shares are given pany, and is one of the most unique and

stands at \$6,612,050, against \$16,190,575 at ticular. It is not a biography, but merely a this time last year, and \$18,635,575 at the collection of obituary articles and accounts corresponding period in 1877. The loans show a decrease this week of \$389,400; the papers, and fac-similes of letters to Mr. specie is increased \$516,000; the legal tenders are decreased \$992,500; the deposits other than United States are down \$1,139,-

700, and the circulation is up \$90,400.

The following is an analysis of the bank totals of this week compared with that of last week :

	June 14.	June 21.		arisons.
Loans	\$256,291,000	\$255,901,600	Dec.	\$780,400
Specie	18,780,900	19,296,900		516,000
Legal t'nd'rs	44,851,900	43,859,400		992,500
Tot. reserve.		63,156,300		476,500
Deposits	227,316,700	226, 177,000	Dec.	1,139,700
Reserve required Surplus Circulation.	56,829,175 6,803,625 20,056,800	56,544,250 6,610,050 20,156,200	Dec.	284,925 193,575 99,400

The foreign trade movements at the port of New York since our last issue are shown in the following tables:

For the week ended June

Dry goods General mdse	\$926,628 5,257,630	\$677,736 5,214.392	1879. \$1,003,788 3,476,100
Total for week. Prev. reported	\$6,184,258 156,780,389	\$5,892,128	\$4,479,948 143,742,691
Since Jan. 1		orts were	

Included in the	imports	were ite	ms of
merchandise valued	as follov	WS:	
		Quantity.	Value
Copper			\$8,044
Cutlery			18,905
Guns			5.367
Hardware			976
Iron, pig, tons		400	4,438
Iron, sheet, tons	********	44	4,118
Railroad bars			23,123
Iron ore, tons		031	1,500
Iron, other, tons		784	15,829
Metal goods			16,892
Nails			1,635
Needles			8,820
Nickel			1,137
Old metal			720
Platina			9,369
Percussion caps			1,505
Saddlery		8	1,112
Steel		1,913	17,375
Silverware			519
Tin bxs			182,813
Tin, 288 slabs			1,604
Wire		II	2,335
EXPORTS, E	ECLUSIVE O	F SPECIE.	

For week ended June 24: 1878. 1877. 1878. 1879. For the week... \$5,711,029 \$5,851,520 \$6,836,094 Prev. reported.. 123,795,264 158,438,026 145,144,191

Since Jan. 1....\$129,506,293 \$164,289,546 \$151,980,285 EXPORTS OF SPECIE. For the week ended June 21: Total for the week.... Previously reported..... Total since January 1, 1879...... \$11,072,285

COAGLUITIONS DONGS CIOSE US LONGAS	
Bid.	Asked.
U. S. Currency 6's 122	125
U. S. 6's 1880 registered 1041/6	104%
U. S. 6's 1880 coupon	1071/4
U. S. 6's 1881 registered 104%	104 7/8
U S. 6's 1881 coupon 107 %	1073/4
U. S. 5's 1881 registered 103%	10334
U. S. 5's 1881 coupon103%	10334
U. S. 416's 1801 registeredtoo	1061/8
U. S. 416's 1891 coupon 106	1061/8
U. S. 412's 1801 coupon	102
U. S. 4'8 1907 coupon 102%	103
The following were the closing quo	

U. S. 4% B 1891 Coupon	10078
U. S. 4's 1907 registered 101%	102
U. S. 4'8 1907 registered 101% U. S. 4'8 1907 coupon 102%	103
The following were the closing que	
	PERFICIEN
of active shares :	
Bld.	Askeds
American District Telegraph 64	65
Atlantic and Pacific Telegraph 35%	361/4
Adamic and Pacific relegiops 3578	
Burlington and Quincy	115
Bur., Cedar Rapids & North 37%	**
Canada Southern 50%	58
Canton	40
Col., Chicago and Indiana Central 636	65/8
Cley Col. Cin. and Indianapolis 49%	501/4
Clev., Col., Cin. and Indianapolis 49% Cleveland and Pittsburgh 97	9736
Chicago and Alton 821/4	83
Pref	115
Delaware, Lack. and Western 57%	571/2
Delaware and Hudson Canal 4636	4634
Delaware and riudson Canal 4078	
Express-Adams	106
" American 461/2	471/2
" United States 47	48
" Wells, Fargo & Co100	1001/2
Erie 27%	27%
" Pref 51%	513/4
Fort Wayne	rog
Herlem 156	158
Hannibal and St. Joseph 2014	201/2
Prof 41%	4134
Harlem 156 Hannibal and St. Joseph 20% Homestake Pref. 47%  37.	373/4
Illinois Central87%	87 1/2
Illinois Central	57
Kansas Pacific 56	
Kansas and Texas 131/2	1334
Louisville and Nashville	75%
Louisville and Nashville 00%	611/2
Michigan Central 76%	761/2
Morris and Essex 89	8936
New York Elevated	133
Now Jersey Central 52%	5238
Northwest 05%	66
Pref. 95% Ohio and Mississippl. 14% Pref. 35	955/8
Ohio and Mississippi	1434
Omo and mississippi.	3538
Pacific Mail	1538
Pacine man	140
Panama	151/2
Quicksliver	
Preferred	1391/4
Rock Island and Pacific 1381/2	263/4
Gt Louis and Iron Mountain 20%	20%
Gt Louis Kansas City Northern 14	1438
FIGE 4078	4034
St. Louis and San Francisco	834

St. Louis and San Francisco......

St. Paul	
Prof	53/8
Standard	93%
	29%
Union Pacific	424
Wabash	7578
Western Union Telegraph	93%

### GENERAL HARDWARE.

We hear of considerable falling off in the volume of business this week as compared with last, but considering the near approach of midsummer, it is not to be wondered at. There is little doubt now that there will be a general closing of business houses in the Hardware and Metal trades from Thursday evening, July 3, to Monday, July 7. More than 100 signatures have been obtained, and some who declined to add their names to the paper have stated that they will suspend business with the others.

Abraham Bussing, secretary of the Ausable Horse Nail Company, No. 4 Warren street, informs us that some manufacturers are using fac similes of their cuts of Nails. as shown in their advertisement on page 25,

We have received a copy of a beautiful ittle volume, filled with tributes to the members, and the state of th little volume, filled with tributes to the memin script by the Heliotype Printing Combeautiful publications we have ever seen. The bank return shows a decrease of \$191,575 in surplus reserve, which now Mr Mallory, which is faithful in every par-Mallory and to members of his family and firm from John I. Davenport, George H. Sargent, and Heaton & Denckla. The little circular and discount sheet which we pri book is intended simply for the relations, personal friends and intimate business associates of Mr. Mallory, and will by them be treasured as a memento of one whose useful life will not, and should not, soon be for-

Alfred Field & Co., No. 93 Chambers street, have been appointed sole agents in this country for the New Castle Chilled Shot

Day, Farrington & Co., No. 295 Third avenue, have issued an illustrated and descriptive catalogue of Builders' Hardware manufactured by them, in which they show a good assortment of Mortise and Rim Locks, and Night Latches, Striking Plates, Door Knobs and Escutcheons, Silver-Plated and Real Bronze Butts, Shutter Knobs, Sash Lifts, Door Bolts and kindred goods. They also present a fine line of Bell Pulls, Gongs and Bell Hangers' Supplies, Speaking Tube furniture, &c. They invite special attention to their new line of heavy hand-plated Name or Door Plates, which they furnish with any style of engraving, or any shape or style

ton, N. J.
COLEMAN & ENGLISH, St. Louis, Mo.
GILLESPIE BROS. & Co., Pittsburgh, Pa. KLEIN, LOGAN & CO., ""
KLEIN, LOGAN & CO., "
PARK, LONG & CO., "
POWELL TOOL CO., Cleveland, Ohio.
WASHOE TOOL CO., Newark, N. J.
WILSON MFG. CO., New London, Conn. YERKES & PLUMB, Philadelphia, Pa.

Solid Box Vises.

				Lbs. each.	Price.
No.	35,	Vises	weighing abou	ut 35	\$8.50
No.	40,	8.6	6.6	40	9.50
No.	45,	6.6	6.6	45	10,00
No.	50.	6.6	6.6	50	11 00
No.		6.6	6.6	55	12.00
No.	55,	66	4.6	60	13.00
No.	65,	6.6	4.6	65	14.00
No.		6.6	6.6	70	15.00
No.	70,	66	6.6	75	16.00
NO.	751	6.6	4.4	80	17.50
No.	80,	66	. 44	85	18.50
No.	85,	44	44	90	20.00
No.	go,	44	44	95	21.00
No.	951	66	6.6	100	22.00
No.		6.6	44	105	23.00
No.		4.6	64	110	24.02
No.		64	6.6	115	25.00
No.	115,	66	6.6	120	26.00
No.	120,	+6	6.6	125	27.50
No.		6.6	6.6	130	29.00
No.	130,	6.6	44	***	31.50
No.	1351	66	66	* 10	33.00
No.	140,	44	6.6		35.00
No.	1451	66	44	2.00	36.00
No.		66	66		41.50
No.		66	44		44.50
No.		66	64	.00	47.00
No.		66	66	waa	53.00
No.		4.6	6.6		56.00
No.	200,		Discount, 35 p		30,00
				o number on	

Vises will be sold by the number only, and not by weight. The numbers adopted for the new list of Solid Box Vises indicate, as near as possible, their respective weights, which please observe, as we do not make interme-

dia						es a	nd i	Screw	s.											Each
No.	2.	for	No	20	Wi	SAR.											* 1		. *	\$3.5
No.	2	64	4.5	40	to	NO.	55	A TRACE	24	81	6.8	ĸ	*	* *	-	*			н н	4.0
No.	2.	6.6	81			No.				*	.,						*	*		4-5
No.	4.		4.6	90	to	No.	130	66		*			*		*	×	×	.,		
No.	21	166	- 66	130	to	No.	200	11			. ,						*	×		8.0

3	Mattocks, L'g Cutter	A	ize Eye	. Com	
	Sh'rt "		\$16.00 15.00		\$15.00
1	" L'ng " new l	tillu.			12.50
1	Pick Mattocks		13.50		12.00
	Grub Hoes	TO 0	1	-	
1			11.00	77.50	12.00
1	Stone Picks, lbs	6.0	- (	11.30	0
1	\$	16 50	17.5		18.50
ı	Railroad or Clay Picks	20.30	. 6	1 4 -	7-8
1					
1	Com. " "	10.00	11.00	12.00	
1	Tamping Picks, lbs	6-7	77-9		8-9
1				0	10.00
1	Com.	16,00	17.0		18.00
1	Coal Picks, No	1		3	4
1		8.50		9.50	
ı	No	2	2		. 4
ı	Surface Picks\$14.00	\$15.00	\$10.	00	17.00
1	Drifting " 12.50 Poll " 15.00	14.00	15.	00	16.00
ı	No	10.00	17.		
l	Surface Picks	¥8 00	***	00	7
ł	Dritting "	17.50	19.	30	20,00
l	Poll "	20.00	21.	50	
I	Mill Picks	2 lb.		lb.	
1	Diggount on all Matter	20.00	20.	00	TT-00
1	Discount on all Mattoo	EKS, I	ioes an	d Pick	KS, 40
ı		CIA.	-1 T		
ı	Smith & Stone Sledges, 6 t Striking Hammers, under	O and	el Face	. C.	Steel.
ı	Striking Hammers, under	s lb.	U QO. I	7	\$0.30
۱	" 5 lb. a	and o	verr	7	.30
1	Coal Sledges, 5 to 10 lb		I	8	.32
I	Hand Hammers, 114 to 5	Ibs		6	.36
ı	Napping " 2 to 5 Mason " 24 to 22	44	: .2	6 -	.36
1	Mason " all to an	6.6		6	

	Cast	Vise	8.	, 4		
Inches Parallel Vises. Inches Parallel Vises. Inches	\$3.00 \$7.50	1	2 1/2 1.00 1/2 1.50	5.0 5.0 31/2	3½ 5.75 6 16.00 4½	
Swivel Vises		4.50	5.50	7.00	8.50	
Farmers "	ount on al	2.70 pove :	3.60	4.65 Cent.	6.70	9.65
	Rapid Tre	unsit	Vises	. 1		
Parailal	. Inches			door		101700

Paratlel, 4 inches, \$9.50. Coach, \$12. Discount on above, 15 per cent. Henry B. Newhall, No. 11 Warren stree as issued, under date of 20th inst., th below. In addition to his new catalogu to which this discount sheet applies an which we noticed last week, he will issu shortly a separate catalogue and price lis illustrating the full line of goods manufactured tured by Lewis, Oliver & Phillips, Pitts burgh, Pa., for whom he is agent.

11 WARREN ST., NEW York, June 20, 1879. this country for the New Castle Chilled Shot
Company, of Gateshead-on-Tyne, England.
They claim for this Shot that it is much more
solid and regular than any known manufacturers I represent, are withdrawn
facture. pel manufacturers to make all quotation hereafter subject to change without notic

If in want of any goods in our line we wi

If in want of any goods in our line we will name you special terms upon application.

Respectfully,

HENRY B. NEWHALL,

New York representative of Providenc

Tool Company, Lewis, Oliver & Phillips

Standard Nut Co., Pittsburgh Hinge Co.

Limited; Wm. H. Haskell & Co., Penfiel

Block Works, W. P. Townsend & Co.,

Kleiv, Lorga, & Co., Hubbard, Pakanon Klein, Logan & Co., Hubbard, Bakewe

Providence Tool Co. and other manufacturer Henry B. Newhall, New York agent, 1: Warre street. Catalogue of 1879. Heavy and Mari Hardware, Railroad and Machinists' Supplie

any style of engraving, or any shape or style of Plate that may be required. In addition to the goods mentioned, they illustrate a complete line of Blank Keys, several styles of Pad Locks, and a good line of Wrought Iron Hasps and Staples, &c. The book contains 176 pages, and is printed on good paper and bound in cloth. We invite attention to their advertisement, which will be found on page 24.

The demand for Nails continues light, and the tone of the market in regard to price is not as firm as at the opening of the month. We quote 1od. to 6od., \$2.25 net, which is the nominal price.

At a meeting held at the office of Hermann Boker & Co., 101 and 103 Duane street, New York, the undersigned manufacturers unanimously adopted the following list prices and discounts for their respective goods, to take effect July 1, 1879.

ATHA TOOL Co., Newark, N. J.

Hermann Boker & Co., proprietors of Trenton Vise and Tool Works, Trenton, N. J.

COLEMAN & ENGLISH, St. Louis, Mo. tion.
Washers, Cast Iron, lb. net.
Boits, Machine, Regular, full kegs.
Boits, Machine, Haskell's
Boits, Raliroad Track, prices on applica
Crow Bars, Iron, Steel Points, lb. net.
Crow Bars, solid Steel, lb. net.
Claw and Pinch Bars, lb. net.

	Claw and Pinch Bars, Ib. net4%\$
	Plow Bolts by the hundred50 %
	Plow Bolts by the pound in bulk, 36 in., all
	lengths, lb. net
	Flevator Bolts, Malleable Iron30 %
	Flevator Bolts, Wrought Iron
	Gimlet Point Coach Screws, full kegs
١.	Wood or Lag Screws, full kegs65 %
0	Bolt Ends65 %
0	Tuen Buckles
0	Forged Set Screws and Tap Bolts 50 %
0	Milled Set Screws and Cap Screws
0	Machine Screws, Iron, flat head
0	Machine Screws, Iron, round head
0	Machine Screws, Brassnet
0	Machine Screw Taps 20 %
0	Common Carriage Bolts75 & 5 %
0	Common Tire Bolts
0	Stove Bolts, flat heads50 %
2	Stove Bolts, round heads
0	Dall Square Carriage Bolts
2	Plate Hinges, 6 and 8 in., 41/4 lb. net; 10 in. up,
2	al/é lb. net.
2	Ilinga Nails lbs. net
5	Screw Hook and Strap Hinges, 6 to 12 in., 4%¢ lb.
5	not : 14 in up 21/6 lb. net.
2	Screw Hook and Eye Hinges 30 %
5	Cold Chisels40 %
5	Stran and T Hinges 60 & 10 %
2	Stirring
2	Clearer Springs40 %
5	Leversnet
9	Top Card Platesnet
5	Round Can Rings, Style No. 1, 2, 330 %
2	Round Can Rings, Style No. 4net
2	Square and Oval Can Rings, Style No. 1, 2, 3net
0	Square and Oval Can Rings; No. 4net
1	Threshing Machine Teeth, prices on application.
. 1	Chain and Chain Linksnet
1	Rivets, Bulk35 %
3	Rivets, Papered50%
	Riveting Burrs. New List.

5.00	Grommet Chisels. Setting Dies for Rolled Rim, Sheet Brad and Eyelet Grommets. Setting Dies for Oblong Grommets. Cutting Punches. Cutting Punches for Oblong Grommets. Clews. Sett Hooks.
4.50	and Eyelet Grommets
2.50	Cutting Punches
5.00	Cutting Punches for Oblong Grommets
3	Bench Sail Hooks
-9	Sailmakers' Sister Hooks
3.50	Gaff-topsail Hooks, Henshaw's Patent
-8	Clews Bench Sail Hooks Sailmakers' Sister Hooks Gaff-topsail Hooks, Henshaw's Patent Gaff-topsail Hooks, Coleman's Patent Extra Palms Sailors' Palms Sheaths and Belts Sail Needles
.00	Sheaths and Bolts
-0	
.00	Fids. Sailmakers' Prickers, No. 1 and 2. 10 %; 3, Sailmakers' Marline Spikes.
4	Sailmakers' Marline Spikes
,00	
4	Brass Thimbles Buntline Leaders. Grommet Knobs. Lizzard's or Buntline's Buil's Eyes. Lizzard's or Buntline's Buil's Eyes. Hooks and Thimbles. Match or Sister Hooks and Thimbles. Swivel Hooks Open Thimbles. Small Eyed Block Hooks. Wire Rope Thimbles. Anchor and Chain Shackles. Screw Anchor Shackles. Chain Punches Chain Hooks. Rigger Screws Tin Fog Horns.
.00	Grommet Knobs
.50	Hooks and Thimbles
7,00	Match or Sister Hooks and Thimbles
	Open Thimbles
ib.	Small Eyed Block Hooks
,00	Anchor and Chain Shackles.
40	Screw Anchor Shackles
el.	Chain Funches
.30	Rigger Screws
36	Barrel or Can Hooks
.32	Sounding Leads
.36	Harpoons.
.40	Lily Irons
.32	Toggle Irons
.42 nt.	Ankle and Wrist Shackles
	Calkers' Tools Providence Tool Co
31/2	Calking Mallets
.75	Calking Irons
00,00	Hawsing Mallets
11/2	Marline Spikes
	Improved Connecting Shackles
65	Thompson's Connecting Shackles
- 1	Jib Hanks
_	Cnain Hooks Rigger Screws Tin Fog Horns Barrel or Can Hooks. Sounding Leads Scrapers. Harpoons. Lily Irons. Toggle Irons Grains. Ankle and Wrist Shackles. Walnut Mallets. Calkers Tools—Providence Tool Co. Calking Mallets. Calking Mallets. Hawsing Irons. Hawsing Irons. Hawsing Irons. Hawsing Irons. Hawsing Irons. Hawsing Irons. Harline Spikes. Top Mauls, lb., net. Improved Connecting Shackles. Thompson's Connecting Shackles. Thompson's Connecting Shackles. Jib Hanks, Jib Hanks, Improved Anchors. Soat Hooks.
-	Jib Hanks, Improved Anchors. Boat Hooks, Improved Combination B-laying Cleats Wrought-Iron Staples. Galvanized Iron Cleats. Cast-Iron Checks. Cast-Iron Checks. Cast-Iron Checks. Molow Belaying Pins. Mast and Yacht Belaying Pins. Clamps. Clinch Rings. Clinch Rings. Clinch Rings, Norway Iron, per lb., net. Cotton, Box and Hay Hooks Common Rowlocks. Seine Boat Rowlocks. Seine Boat Rowlocks. Spring Rowlocks. Syering Rowlocks. Syering Rowlocks. Syering Rowlocks. Yacht and Fishing Boat Rowlocks. Navy or Revenue Rowlocks Patent Swivel Rowlocks. Patent Swivel Rowlocks. Socket Rowlocks. Patent Swivel Rowlocks. Socket Rowlocks. Socket Rowlocks. Cast-iron Rowlocks. Cast-iron Rowlocks. Syering Rowlocks. Syering Rowlocks. Socket Rowlocks. Socket Rowlocks. Socket Rowlocks. Socket Rowlocks. Siver Canal and Dory Rowlocks.
-	Boat Hooks, Improved
et, he	Wrought-Iron Staples
nt	Galvanized Iron Cleats
-	Cast-Iron Cheeks
le,	Hollow Belaying Pins
nd	Mast and Yacht Belaying Pins
ue	Clinch Rings
st,	Cotton, Box and Hay Hooks
ic-	Common Rowlocks
ts-	Seine Boat Rowlocks
	Spring Rowlocks
	Bush's Patent Rowlocks
te	Yacht and Fishing Boat Rowlocks
e-	Navy or Revenue Rowlocks
n.	Socket Rowlocks-Malleable Iron, 42 %; Brass,
n-	Socket Rowlocks—Malleable Iron, 40 %; Brass, Cast-iron Rowlocks. River, Canal and Dory Rowlocks. Whale Boat Rowlocks. Patent Hollow Thole Pins. Gunwale Rowlocks. Outrigger Rowlocks. Rudder Braces with Straps. Ring Bolts. Rudder Braces with Screw Ship Ring Bolts. Screw Ring Bolts. Screw Ring Bolts. Screw Ring Bolts.
ns	Whale Boat Rowlocks
e.	Patent Hollow Thole Pins
ill	Outrigger Rowlocks
	Rudder Braces with Straps
- 1	Rudder Braces with Screw
	Ship Ring Bolts
ce is,	Screw Eye Bolts
0.,	Rudder Hangings
ld	Hook and Eye Turn Buckles
).,	Snip Ring Boits. Screw Ring Boits. Screw Eye Bolts. Rudder Hangings. Deck Hooks and Rudder Gudgeons. Hook and Eye Turn Buckles. Port Hinges. Strap Hinges. Coil Chain Ront Rivets
ell	Coil Chain
	Boat Rivets
.	Boat Rivets. Cut and Sheathing Nails, prices on application. Ship and Boat Spikes, prices on application. Galvanized Iron Tacks. Mast House or Rings.
18,	Galvanized Iron Tacks
en	Mast Hoops or Rings. Composition Bushings, Flange Steel Roller Bushings, Flange Sheaves, Solid Sheaves, Open
ne es.	Steel Roller Bushings, Flange
-	Sheaves, Open
	Sheaves, Patent Snatch and Clothes-line Blocks. Tackle Blocks, Galvanized Malleable Iron
8¢	Tackle Blocks, Galvanized Malleable Iron
60	Anchor Fish Hooks
8¢	Tackle Blocks, Varvanized Iron
	List)
8\$	Anchor Fish Hooks. Anchor Fish Hooks. Tackle Blocks, Galvanized Iron. Tackle Blocks, Norcross Patent. (Advance List). Power Blocks, Norcross Patent. Mast, Boom and Gaff Withes. Plate Hangers.
6¢	Mast, Boom and Gaff Withes Plate Hangers Screw Eye Awning Pulleys Awning Cleats Awning feet.
6¢	Awning Cleats
	Awning feet. Flange Awning Hinges
8¢	Awning Slide Rods, No. 1 Imp., 10 %: No. 2, 2

naten and Ciothes-line Blocks40
ackle Blocks, Galvanized Malleable Iron40
nchor Fish Hooks
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ackle Blocks, Norcross Patent. (Advanced
List)40
ower Blocks, Norcross Patentne
ast, Boom and Gaff Withes
late Hangers20
crew Eye Awning Pulleys20
wning Cleats30
wning feet20
lange Awning Hinges20
wning Slide Rods, No. 1 Imp., 10 %; No. 2, 25
wning Slides, Iron, 20 %; Brass 10 %
el Spears10
ope Strapped Blocks45
side Iron Strapped Blocks45
eavy Tackle Blocks45
hick Mortise Blocks45
ood Snatch Blocks, Common45
Tood Snatch Blocks, Patent. (Same List)35
on Snatch Blocks, Common32
on Snatch Blocks, Patent. (Same List)15
oose Eye Hook and Swivel Snatch Blocks,
Common45
oose Eye Hook and Swivel Snatch Blocks,
Patent35
ew Style Snatch Block45
armers' Block for Horse Hay Forks20
armers' Knot Block for Horse Hay Forks20
crew Floor Hooks

Wrought Iron Common Sense Dock Block.
Wood Snatch Blocks, Outside Iron Strapped.
Wood Blocks Outside Iron Strapped.
Wrought Iron Dock Blocks.
Wrought Iron Gin Blocks
Open Iron Sheaves
Lignumvitæ Sheaves.
Lignumvitæ Sheaves.
Blocks for Rope Straps (Shells Riveted).
Blocks for Rope Straps (Brass Sheaves)
Blocks for Rope Straps (Shells not Riveted).
Clothes Line Blocks.
Upper and Lower Dead Eyes.
Bulls Eyes.
Hearts.

-		
	Stone Picks	. 50
	Stone Ficks Mill Picks Adze Eye Raiiroad or Clay Picks Adze Eye Raiiroad Tamping Picks Coal Miners' Picks Adze Eye California or Miners' Picks Eyes ready for the Steel Sledges, Smith	.50
١	Adze Eye Railroad or Clay Picks	. 50
í	Coal Minoral Picks	. 50
	Adze Eve California or Mineral Ploks	50
ĺ	Eyes ready for the Steel	50
Ì	Sledges, Smith	45
١	Sledges, Stone Sledges, Striking	45
1	Sledges, Striking	45
J	Hammers Smiths' Hand	45
l	Hammers, Napping	45
I	Hammers, Hand Drilling	45
ı	Hammers, Colorado Pattern	45
l	Hammers, Masons'	45 5
Į	Adze Eye Rell Face Neil Hammers	45 2
ł	Adze Eve Converted Steel Hammers	45 ?
Į	Plain Nail Hammers	45 7
l	Plain Brad Hammers	45 5
l	Carpet Hammers	45 5
l	Coopers' Adze	45.5
١	Coopers' Hammers	45 1
l	Riveting Hammore	45
l	Engineers' Hammers	15 7
ĺ	Double face Engineers' Hammers.	15 1
١	Tinners' Hammers	45 5
Į	Bricklayers' Hammers	15 %
ł	Paving Hammers	15 2
ŀ	Machinists' Hammers Ball Poor	15 7
l	Machinists' Hammers Straight Peen	45 7
l	Machinists' Hammers, Cross Peen	45 1
ĺ	Plain Fye Farriers' Hammers	15 3
ı	Farriers' Turning Hammers	45 5
j	Horse Shoe Turning Sledges	5 7
ĺ	Farriers' Pinchers	15 7
١	Siedges, Stone Siedges, Stone Siedges, Stone Siedges, Striking Siedges, Coal. Hammers, Smiths' Hand Hammers, Mapping Hammers, Napping Hammers, Colorado Pattern Hammers, Masons' Adze Eye Nail Hammers Adze Eye Nail Hammers Adze Eye Nail Hammers Plain Brad Hammers Adze Eye Rell Face Nail Hammers Plain Nail Hammers Plain Nail Hammers Coopers' Adze Coopers' Drivers Riveting Hammers Coopers' Hammers Coopers' Hammers Double face Engineers' Hammers Engineers' Hammers Engineers' Hammers Engineers' Hammers Paving Hammers Paving Hammers Paving Hammers Paving Hammers Fricklayers' Hammers Macadamizing Hammers Machinists' Hammers, Straight Peen Machinists' Hammers, Straight Peen Machinists' Hammers, Straight Peen Machinists' Hammers, Straight Peen Machinists' Hammers Farriers' Hammers Farriers' Turning Hammers Farriers' Turning Hammers Farriers' Finchers Cutting Nippers Farriers' Knives Farriers' Knives Farriers' Buttress Boller Makers' Hammers Blacksmith Siedges, 2 to 5, lb., net. Blacksmith Siedges, 5 to 18, lb., net. Striking Hammers, 2 to 5 lb., net. Striking Hammers, 5 to 18 lb., net. Hand Drilling or Stone Cutters' Hand Ham mers, 5 to 18 lb., net. Hand Drilling or Stone Cutters' Hand Ham mers, 5 to 18 lb., net.	45 5
I	Farriers' Knives	45 5
١	Boiler Makere! Hammen	45 2
l	Blacksmith Sledges a to s lb net	45 7
l	Blacksmith Sledges, 5 to 18, lb., net.	201
ļ	Blacksmith Hand Hammers, 21/2 to 5 lb., net	21
l	Striking Hammers, 2 to 5 lb., net	21
١	Hand Drilling on Stone Cuttors' Ward IV	. 16
١	mers 21/4 to s lb net	-
ł	Hand Drilling or Stone Cutters' Hand Ham	319
l	mers, 2½ to 5 lb., net.  Hand Drilling or Stone Cutters' Hand Ham mers, 5 to 18 lb., net.  Stone Sledges, 2 to 1 lb. net.	16
I	Stone Sledges, 2 to 5 lb., net	31
l	Spauling or Stone Hammars at a lly	16
l	Spauling or Stone Hammers, 2 to 5 lb., net	219
Į	Masons' Hammers, lb., net	256
l	Stone Axes or Peen Hammers, lb., net	21
l	Coal Sledges Ib., net	16
l	Railroad Spike Maule II. not	164
ļ	Ship or Top Mauls, lb., net	104
ł	Wood Choppers' Mauls, lb., net	16
ı	Railroad Track Chisels, lb., net	219
Ì	Napping Hammers, lb., net	21
Į	Roat or Top Mauls, lb., net	IO
I	Wrought Iron Garden Rakes	15
l	Blacksmith Tongs	10
l	Blacksmith Tools	45 1
ı	Axes, Single Bitts	net
l	Axes, Spanish Pattern	net
I	Ship Axes and Adzes	ne
l	Railroad Adzes	40 1
ı	Broad Axes	40 5
١	mers, 5 to 18 lb., net. Stone Sledges, 2 to 5 lb., net. Stone Sledges, 2 to 30 lb., net. Stone Sledges, 2 to 30 lb., net. Stone Sledges, 2 to 30 lb., net. Spauling or Stone Hammers, 2 to 5 lb., net. Spauling or Stone Hammers, b, net. Spauling or Stone Hammers, b, net. Stone Axes or Peen Hammers, lb., net. Stone Axes or Peen Hammers, lb., net. Stone Axes or Peen Hammers, lb., net. Coal Sledges, lb., net. Railroad Spike Mauls, lb., net. Ship or Top Mauls, lb., net. Wood Choppers' Mauls, lb., net. Railroad Spike Mauls, lb., net. Napping Hammers, lb., net. Railroad Spike Mauls, lb., net. Napping Hammers, lb., net. Boat or Top Mauls, lb. net. Wrought Iron Garden Rakes Blacksmith Tongs Blacksmith Tongs Blacksmith Tongs Blacksmith Tongs Blacksmith Tongs Blacksmith Tonds Rakes Blacksmith Adzes. Axes, Spaulsh Pattern. Ship Axes and Adzes. Railroad Adzes. Broad Axes. Hatchets. Boys' and Hunters' Axes. Solid Circular Saws, 4 to 52 inches. Solid Circular Saws, 4 to 52 inches. Top Circular Saws, 54 to 72 inches. Top Circular Saws, 4 to 572 inches. Inserted Teeth Circular Saws, up to 52 inches. Inserted Teeth Circular Saws, up to 52 inches. Taper Ground Saws. Patent insertable Flange Teeth Mill and Mulay Mill Saws Gang and Drag Saws. Cross Cut Saws, Hubbard, Bakewell & Co, quality, foot, net.	40 5
ı	Solid Circular Saws , to sa inches	40 9
۱	Solid Circular Saws, 54 to 22 inches	5 7
l	Top Circular Saws for Double Mills	25 9
١	Extra Shingle Saws	35 %
ı	Inserted Teeth Circular Saws, up to 52 inches2	15 %
١	Taper Ground Saws	30 %
١	Patent insertable Flange Teeth	5 7
1	Mill and Mulay Mill Saws	0 1
	Gang and Drag Saws	10 9
	ity foot net	
ı	Cross Cut Saws, Lippincott & Co quality	500
	f. o', net	485
ı	Cross Cut Saws, Pratt & Co. quality, foot, net	400
١	Showels D Handle Square Delet	10 9
	Spades D Handle	10 %
	Shovels, Long Handle, Round Point	13 7
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The prices on this sheet are for delivery in New York or at factories where goods are manufactured. Goods requiring special packing, will be subject to charge for same. Our terms are cash in New York bankable funds—and prices always subject to change without notice. S. L. Samuel, export agent, No. 57 Cedar street, has issued the following circular and testimonial to his business connection. We invite attention to his advertisement on

Sizes % % % inch Galvanized, \$3.20 \$5.80 \$8.00 \$0.60 dor. Plain, 2.05 5.30 7.25 8.50

57 CEDAR STREET, NEW YORK,

GENTLEMEN.—As you are aware, I have represented the firm of William H. Samuel & Co. of Liverpool, England, in this market for the past ten years, and have been their only agent. Having lately obtained con-clusive evidence of unfair treatment toward only agent. Having lately obtained conclusive evidence of unfair treatment toward me, and violations of our agreement on their part, which have existed without my knowledge for the past three years, I have this day resigned their agency, and have Blocks with Stiff Hooks and Stiff Hooks and Stiff Hooks and Beckets.

Swivel Hooks and Stiff Hooks and Loose Swivel Hooks and Beckets.

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Iron mortars, 50 Tools, cs., 34

Tools, cs., 34

Fos.

Baldwin Bros. & Co.

Bundles, 2

Brown Bros. & Co.

Bars, 2054

Cary & Moen,

Bale John G.

Sheet fron bdla, 312

Folsom H. & D.

Folsom H. & Co.

Lirwin R. & Co.

Lirwin R. & Co.

Loe Jas. & Co.

Marvel Wm. D.
Ore, tons, 2838
Mather, Watts & Co.
Ore, tons, 1800
McCoy & Co.,
Bundles, 1158
Revada Bank,
Pig, tons, 100
Perkins, Lingstone &
Fost,
Spiegrel tons, 100

IMPORTS Of Hardware, Iron, Steel and Metals into the Port of New York, for the Week ending

Hardware.

of strict integrity, a business man of eccellent qualifications, and an agent of u cellent qualifications, and an agent of un impenchable probity in the interest of h principals of both sides.

In witness whereof, we take pleasure i hereto signing our names, this 20th day of June, 1870:

June, 1879: WALLACE & SONS, (U. T. Hungerford, A Wallace & Sons, (U. T. Hungerford, Attorney); Edward Miller & Co., (A. P. Ives, Agent); Benedict & Burnham Mfg. Co., (W. A. Hungerford, Agent); Bristol Brass & Clook Co., (Geo. W. Brown, Agent); Holmes, Booth & Haydens, (S. H. Willard, Agent); Sargent & Co.; The Peck, Stow & Wilcox Co., (W. R. Walkley); Russell & Erwin Mfg. Co., (M. J. Woodruff, Tressurer); Graham & Haines; A. Field & Sons; D. C. Pratt; John Gray's Sons; Althof, Bergmann & Co.; Ives, Blateslee & Co., (E. G. Williams); White Star S. S. Line, (R. J. Cortis, Agent); L. & G. W. S. Co., (Williams & Guion, Agents); Inman S. S. Line, (Henderson Bros., Agents).

State of New Yore.

CITY AND COUNTY OF NEW YORK.

ITY AND COUNTY OF NEW YORK. ]

I, G. H. WETJEN, a Notary Public residing in the City and County of New York, and duly appointed by the Governor of the State of New York a Notary Public in and for said City and County, do hereby certify that the above is a true conv of the original. that the above is a true copy of the original and that the foregoing signatures are affixed

and that the foregoing signatures are an action to the original now in my possession.

In witness whereof I have hereunto set my hand and affixed my official seal of office, hand and affixed my official seal of office, this twenty-fourth day of June, in the year one thousand eight hundred and seventynine.

G. H. WETJEN,

Notary Public (119), in and for the City and County of New York.

### IRON.

American Pig.-The demand, although not so active as it was last month, is remarkably good for this season. Makers continue firm in their views, and we hear of no disposition to shade prices for future delivery. We hear of negotiations pending for some large parcels, and a sale is reported of 450 tons Thomas Gray Forge at \$16.50. The sales in lots during the week have been considerable, but it is difficult to obtain a correct aggregate of such transactions. Usually in the month of June prices for Raw Irons fall off a trifle, and it is remarked, as an evidence of the strength of the market, that this June the tendency is decidedly the other way and all the sales reported are at full figures. We quote Foundry No. 1, \$18.50 @ \$19; Foundry No. 2, \$17.@ \$18, and Gray Forge, \$16.50.

Scotch Pig.—The demand for Scotch Iron is triffing, and the arrivals are not taken up as freely as importers would like. tured We hear of the arrival at this port during the week of 400 tons, part sold to arrive and the balance gone into yard. We quote: Eglinton, \$19 @ \$19.50; Coltness, \$21.50 @ \$22; Gartsherrie, \$20 @ \$21; and Glengar-

Rails.—The demand for Steel and Iron Rails for winter and spring delivery has already made itself felt on this market, and sales of 6000 tons of Steel by the Lackawanna Iron and Coal Company are reported, Hoboken delivery, at \$45, and 10,000 tons for delivery next year, on terms which have not transpired. We hear also of the sale of 2000 tons Iron Rails for delivery on the Ohio River at \$39.50. Taken altogether the position of the Rail market is very satisfactory from the makers' standpoint, and no doubte are entertained now that all the mills will have abundant employment for the fall and winter months. We quote Steel at tide-water, \$45 @ \$47, and Iron, at mill, \$37 @

Old Rails.—The inquiry for Old Rails is active, and we hear of several large transactions which are pending, and which it is expected will result in considerable business before the close of the month. The tone of the market is firm, and purchasers are easily found at \$22.50 @ \$23.

Scrap.—No sales worthy of mention are reported during the week. We quote No. 1 Wrought, from yard, \$23 @ \$24.

Manufactured Iron.—The Iron Dealers' Association held a meeting in this city on cont freights from Pittsburgh to this city of 12½ days a week has not had the effect of makcents, and also an advance of 1-10 cent on Iron at the mills. Business in Finished Iron is yery active, and we hear of a sale of 1000 tons Plate Iron, at a price said to be from this grade is, for brands of any repute, well booked. Ternes are weak, and worth atfreights from Pittsburgh to this city of 121/2 1-10¢ to 2-10¢ per lb. over the market quotation. All of the mills east of the Alleghenies are reported full of orders, and considerable difficulty in placing orders for delivery inside of 30 days is experienced. CES OF IRON.

Not cash, 30 days Subject of IRON.
Not cash, 30 days. Subject to changes of market, Common Iron
Refined Iron 1.850
24.0 2 in. Round & Square & 1 to $6 \times \%$ to $1 \dots 2$ c Large Rounds and Squares.
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NN -	Angle Inon	Low.	******				S C	1
MM	Benzon St Angle Iron to 3 in	, ordin	ary si	tes, TV	to . in	sizes, 2	6 c	F
Jr. 1	to - 1-	~qua:	re Ro	OF OW	d III.		2 50	11
R. 12	fee Iron, o	rdinar			y	sizes, 2		le.
: , G	ree Iron, of Bead Iron is broove Iron hannel Iron Vrought Ir	or Sm	y sizes	11/4 to	4 in		***	st
8. 6	roove Iro	n. \$6. 3	OKE ST	acks, 3	1/2. 4. 43	( in	3 C	al
RW	nannel Ire	n, s to	41 /8, I	and 13	£	******	4 C	2.3
36	rought Ir	on Bea	ma		. 100.		3 C	th
1	De	ck .	4	O re in	· 198.		.8oc	ite
1	hannel Iro Vrought Ir	Blue A	nnoal	III OI U	1-0.			fa
Ne	0. 10 to 16 1 0. 17 to 20 1 0. 21 to 24 t	0 44 in	miestie	d Shee	t Iron.		- 1	41
IN C	0. 17 to 20 1	0 42 ) -	wide					the
NI	21 to 24 t	0 36 4	Be B-		******		8.0C	
No	- 25 & 26 t	0 30 1	4 0 E	4		3	00	gre
No	· 27 0 28 t	0 30 /	内の百			3	40	Re
Tir	e Steel	20		C		3	3/0/8	and
Toe	0. 17 to 20 1 0. 21 to 24 to 25 & 26 to 27 & 28 to 29 & 30 e Steel, or 20 to 30 to 3	unary	sizes.		******	4	clr	nes
Slei	oh Oh					41	601 1	Tun
Spr	Calk Steel	reel				4	c	
1	igh Shoe s		******		*******	37	ic P	ric
1		-	-			44	SC	N

### METALS.

Copper.—The market has remained quiet, Copper.—The market has remained quiet, and sales have been restricted to 50,000 pounds Lake Superior at 16½ @ 16½ ; also the closing price and the nominal quotation for Baltimore Copper. Cablegrams from London repeat the quotation of £56 for Chili Bars and £62 Best Selected. Mail advices have reached us from there as late as June 14. from which we extract the late as June 14, from which we extract the late as June 14, from which we extract the ensuing passage: "The Copper market remains steady, and sellers continue firmer in their quotations for unwrought, but for Manufactured the market is rather easier, and the reaction which has taken place in the Indian Exchange will probably for a time prevent further orders being given out for the East. Australian and Chilean brands have been quoted about 10/@20/per ton have been quoted about 10/@ 20/ per ton higher, but it is questionable whether this advance can be maintained unless an in-creased demand for Manufactured sets in." Later advices per cable and mail from the West Coast do not materially modify the West Coast do not materially modify the aspect down there, so far as the present and prospective Copper supply is concerned. Contrary to expectations, Chili seems to care little about an increase of its army, and hardly draws upon its mining population. Chili evidently hopes to bring Peru and Bolivia to terms by a judicious use of its navy. Meanwhile, the Copper shipments are as large as ever, and likely to continue are as large as ever, and likely to continue so. There is a fair demand for Manufac-tured Copper at the combination prices, Sheathing Copper. which are unchanged. We quote: New Sheathing Copper, 22¢; Braziers', 24¢, and Bolts, 24¢; Bottoms, 26¢; American Yellow Sheathing Metal, 13½¢; Yellow Metal Bolts, 20¢, and English Yellow Sheathing Metal, 12¢

Tin.-Since our last report there has Tin.—Since our last report there has been no change in prices or in the general aspect of the metal. We quote large lines of Straits on the spot 15½¢@15½¢; Engshish Common, 15¢, and Banca, 18¢@18½¢. There have been no further arrivals of Straits Tin, nor are there any expected for some time to come. The latest quotations per cable are as under: Straits at London, £67; at Singapore. \$20. and at Penang, per cable are as under: Straits at London, £67; at Singapore, \$20, and at Penang, \$19.50 per picul; Exchange, 4/. By mail we receive from London the following, dated June 14: "There is no very great change in the general condition of this market, and sellers have not made much alteration in their quotations. The resolution passed last week by the Tin-plate manufacturers at Swansea to continue the reduced make of Tin Plates for the remainder of this year is not calculated to increase the this year is not calculated to increase the home consumption of this metal, and as the requirements for exportation still keep limited there is not much chance of stocks being greatly reduced yet awhile, unless future supplies continue to come forward in diminished quantities; but as the imports lately have shown a reduction a favorable impression may probably be made upon stocks, and then sellers would probably have little difficulty in realizing higher quotations." Messrs Kreglinger & Co., Rotterdam, express themselves, under date June 10, as follows: "Transactions in Tin have this year is not calculated to increase the Association held a meeting in this city on the 23d inst., at which the list-price was advanced; the new scale of prices will be found below. The association passed a resolution to close their places of business from Thursday evening, July 3, to Monday morning, July 7. The action taken advancing prices was due in a measure to the second transacted in June, and the month less active. English advices remain strong. less active. English advices remain strong. The following is from Liverpool, dated June 12: "So far the restriction of make to four days a week has not had the effect of making the strong of the str this grade is, for brands of any repute, well booked. Ternes are weak, and worth attention at present prices. Cokes, taken all round, are quoted 6d. from bottom." The exports from Great Britain to the United States during the first five months have been States during the first five months have beer States during the first five months have been 55,001 tons, against 41,992 in 1878, and 43,037 in 1877. The extraordinary increase will be noted; to British North America, will be noted; to British North America, 2894 tons, against 3370 and 4739, showing a gradual decrease. We quote at New York at the close, large lines, ordinary brands, per box, as follows: Charcoal Bright, \$5.87½ @ \$6.25; ditto Ternes, \$5.62½ @ Ternes, \$4.75 @ \$5.

Lead.—A moderate, steady trade has agreyated in sales during the week of some cregated in small lots, at 3.80¢ for Common Domestic, while Refined is worth 3.90¢, the more so as the period for the shot demand is gradually drawing near, when an this point is reduced to 8000 tons; while on this side the Atlantic the Lead position has

materially improved of late, the European markets are slow in recovering. They write from London, June 14: "This metal continues very dull of sale; nevertheless the imports keep on a most extensive scale, and much above the requirements of the trade. It is well, perhaps, at the present moment that there are no statistics published for this metal showing the total stock in existence, for if it were made known sellers would doubtless have difficulty in maintaining even the present low prices." Manufacturers' doubtless have dimenty in maintaining even the present low prices." Manufacturers' prices are unchanged. We quote Bar 4 4 5 Pipe, 5¢: Sheet, 6¢; Tine-lined Pipe, 12¢; No. I Solder, 10¢; all less 10 % to the trade.

Spelter and Zinc.-From a statistical point of view, Domestic Spelter is getting into a more encouraging position, since several Missouri smelting establishments have stopped operations, causing stocks to gradually diminish. It is to be hoped now that ally diminish. It is to be hoped now that the consumptive demand may manifest itself more vigorously than it has done thus far. A limited trade has been transacted at 4½ @ 4½¢, according to brand, which is the closing quotation for Common, with a gradually increasing demand, while we call Refined, 8¢ @ 8½¢; Silesian, 5½¢ @ 5½¢; and Bergenport, from Lehigh ore, 9¢. Domestic Sheet Zinc is worth 6½¢. 'London, June 14.—The demand keeps slack, and prices remain easy and in buyers' favor."

Nickel.-Nothing new has occurred in this metal, which continues to sell at \$1.25. Antimony—Remains steady, with a moderate demand, at 11½¢ @ 12¢, according to brand and quantity, the outside figure being for Cookson's.

### COAL

The market during the past week has been The market during the past week has been very quiet. While the tonnage being moved is very large, there is no particular stir in the centers of trade. There has been considerable Coal sold ahead, which is the ex-

siderable Coal sold anead, which is the explanation of the fact above mentioned.

The special feature of the week was the auction sale, which took place at noon auction saie, which took place at monto-day. At this sale there was less quantity sold than usual, and it was divided into small lots. Most of the Coal purchased went into the hands of dealers. any, was bought for speculative purposes
Below we give Mr. Saward's report of the
sale, by which it will be seen that there was

saile, by which it will be seen that there was obtained an advance of from .09 to .15 per ton on the different sizes, comparing with the sales which took place May 28: Prices obtained at the Scranton Auction Sale, June 25, 1879.

June 25, 1879.

15,000 tons of Grate sold at an average of ... 2.17% 10,000 tons of Egg sold an average of ... 2.21% 10,000 tons of Stove sold at an average of ... 2.5% 10,000 tons of Chestnut sold at an average of 2.41% The following are the prices which have een obtained at the previous sales during

Grate. Egg. Stove. Ch't. \$2.05\footnote{\pi\_2.05 May 28. \$2.00 April 30. 2.02 1/2 April 9. 2.03 1/4 March 26. 2.17 1/2 March 12. 2.17 1/2 Feb. 26. 2.25 Jan. 29. 2.35

The official statement of the Anthracite Coal output to the 31st ult., which has just been issued, shows that the sum total was 9,425,769 tons, as against 5,473,019 tons last year. The stock on hand was 512,605 last year. The stock on hand was 512,605 tons, as against 638,436 tons on April 30 and 442,881 tons on June 1, 1878. The output for May this year was 2,397,589 tons, against 1,444,120 for the same month last year. The total increase in production up to the 31st ult., as compared with the same period last year is 2,042,750 tons.

ast year, is 3,942,750 tons.

It is reported that many operators in the Anthracite region are looking about for more Coal, and this, it is argued, indicates the coal, and this, it is argued, indicates the estimate that is placed upon the present sources of supply by keen operators. With a revival of trade to any considerable extent, which revival of trade to any considerable extent, which many circumstances indicate is already in progress, and with the reopening of many manufacturing establishments now closed, the increase in the consumption of Coal must be continued, and the time is not far distant when the present supply will be Coal must be continued, and the time is not far distant when the present supply will be altogether inadequate. It remains to be seen whether the increase in production will keep pace with the increased consumption, thus preventing a material advance in prices.

# OLD METALS, PAPER STOCK, &c.

Conner Bett	per b.		
ng. Vellow Metal	46		0
no Brass beary	B D	.08	@
ur Composition hos	44	.081/	4
k- Composition, heavy.	44	.07	8
ks Tea Lead	44	.10	@
ks Tea Lead	66	.02 1/2	@ :
at Zinc.	44	.021/4	@
r- Pewter, No. 1	44		a
o Wronght Trees	66	.08	
in Light do	rton. &	600	4 .
Stove Platepr.	cwt	.30	D 17.
Machinery de	4	.30	
Machinery dopr	ton. \$11	1.50 @	
The put	3	1.50	*
THE DEICHE CHERONA C.	Rage	0.	
follows:	reage,	œc., a	re a
Canvag Tinon			
Canvas, Linen. White Cotton, New	Der Th		
" " " NOW	44	3 C. C	3%c.
White, No. 1	. 64	4½c. @	
No. a	4.6	3 4c. @	****
reconda	.4.6	# 24 C. (ch	WIL-
Mixed, Woolen	18 1b.	11/2 C. @	472€
Soft, do	66	2 C. O	2 0
(dinner an entering and an entering an entering an entering and an entering and an entering an entering and an entering an		72 C. (n)	C.
Gunny Jagging. Jute butts. Kentucky bagging Book Stock.		C. (2)	3 C.
Kentucky beautiful	64 3	C. (0)	
Book Stock	11 2	%c. @	
	44 2	%c. @	22. /
Waste Panon - ' ' ' ' ' '	44 27	C. @ 2	26c.
Centucky Del S	46 3	4c. @ 1	%C.
Farred Shaking	4 4	c. @	
rass Rope		0 0 -1	Ve I
Messrs. Du Plaine		@ 27	4 C.

Messrs. Du Plaine & Co., Philadelphia under date of June 23, quote the market prices for Old Metals, delivered in store

15 @

Nails, kegs... 30
Mf. iron, pkgs... 35
Powder, lbs...4800
Hdw...pkgs... 16
Sew. mach... 26
Gew. mach... 36
Glassw'e, pgs... 10
Iron bars.... 36 Sew. mach., cs so Glassware, cs 7 Lead, rolls... 7 Petim., gals...3,892 Hdw., cs. 4

Copper Bottoms.
Locomotive Copper and Tin Brons
Heavy Red Brass Scrap.
Light Red Brass Scrap.
Light Red Brass Scrap.
Light Yellow Brass Scrap.
Light Yellow Brass Scrap.
Old Lead Pipe.
Old Junk Lead (melted in mass).
Tea Lead.
New Zinc Clippings
Old Scrap Zinc.
Old Scrap Zinc.
Old Battery Zino.
Plumbers' Add. Dross... otype or Electrotype Plates. EXPORTS

Of Hardware, Iron, Machinery, Metals, &c., from the Port of New York, for the Week ending June 24, 1879: Hamburg. Brazil. Quan, Valu Petlm. gals. . 65,700 \$6,550 Mf. iron, pkg. . 1 10 Lub. oil, gals. 300 90 China. Brass g'ds, cs. Mf. iron, cs...

MI. Iron, pmgs. 14 103
Dles, brs. 2 400
Thware, cs. 12 200
Belting, bales 7 2,056
Iron pipe, ft. 15000 8,500
Copper, cks. 18 3,431
Pet., gals. 489,060 36,877
Wringers, cs. 2 60
Ag. imp. pgs. 30 473
Mach Y, cs. 13 2,982
Pumps, pkgs. 2 366
Sew. mach., cs. 110 2,918 Central America. Central America.
Powder, kgs.1,000 5,630
Ptim,gals...16,006 1,997
Mf. iron, pkgs 3 30
Glasswe, pgs. 44 166
Hdw., pkgs. 51 796
Nalls, kegs... 16 38 Stettin. Pet., gals...273,908 23,355 Rotterdam. Rotterdam.
Pet., gals. 218,505 18,840
Ag. imp., pkgs 10 455
Pitd. ware, cs. 3 317
-lassware, cs. 1 21
-Copper, pks. 2 50
-Mach y, cs. 2 50
-Pumps, pkgs. 18 1,448
Lub. oii, bbls. 150 1,930 Argentine Republic.

Argentine Republic.

Ag. imp., pkgs1330 34,754
Platedw'e, pgs 32 2,277
M. livn, pkgs 32 2,277
M. livn, pkgs 32 3,100
Sew.mach., cs. 178 3,100
Irons, cs. 31 368
Thware, cs. 1 25
Arms, cs. Bremen. ### Permen.

Pet., gals. I, 258, 248 101, 807

Hdw., cs. 64 2, 326

Slates, cs. 100 488

Cars. 100 488

Tinware, cs. 4 3, 800

Tinware, cs. 2 357

Platedwe, cs. 1 500

Iron rolls, cs. 2 130

Mf. iron, pigs 6

Ag. imp., pigs 18 2, 495

Sew.mach., cs. 5 340 Cisplatine Republic.

Watch wire, cs 3 Sandpaper, cs 4 Nails, bxs... 12 Sew. mach., cs 10 Copenhagen. Ptl., gals... 193,886 1,085 Slates, cs... 50 200 Iron safes... 2 288 Slate, tons... 1:0 1,700 Nails, bxs. 1
Sew. mach., cs. 10
Sew. mach., cs. 10
Cars. 25,000
Mach.y, cs. 1
Hdw., pkgs. 3
Glasswe, pgs. 1
Saw appr., pkgs. 99
Mf. iron, pkgs. 3
Tinware, cs. 8 Gefte. gals..104,820 8,913 Cronstadt. gals..134,292 12,000

Danzig. Pet., gals.. 172,275 12,000 Petlm., gals. 9,557
Tanks

Hdw., pkgs. 3

Hdw., pkgs. 3

Sew. mach. cs 25

Q'lcksil'v, fi sks 3

Iron, pkgs. 9

Nails, cs 64

Glassw'e. pgs. 32 Grimstadt. Petlm.,gals.129,974 10,450 Christiansand. Petlm.,gals.222,650 18,219 Elsinore. Nails, cs...... 64
Glassw'e, pgs. 33
Mf. itcn, pkgs 24
Dynamite, pgs 2
Mf. steel, pgs, 50
Mach'y, pkgs. 15 Petlm., gals. 292, 360 27,022 Stockholm. et., gals...109,159 9.824 United States of

Helsingfors. Petlm, gals. 161,735 13,646 Ciristiania. Ptlm., gals. 103,655 7,246 Lubeck. tlm., gals. 103,956 8,316 Antwerp. Mf. iron, pkgs

Hdw., cs.... Mach'y, cs... I rolls, cs.... Dublin. tons.... 188 1,400 Glasgow. Ag. imp., pkgs 36 Belting, cs.... 1 514 189 305 493 1,162 1,080 311 Hdw., cs.... 15 Lub. oil, gals. 2500 I rolls, cs... 7 Needles, cs... 7 Mach'y, cs... 9 British West Indies.

Petim., gals. s4, 148
H.dw., pkgs... 48
Tinware, cs... 9
Ag. imp., pgs... 3
Min. sup., pgs... 51
Mf. iron, pkgs... 51
Notions, cs... 6
Cop., gds., pgs... 4
Nalis, kegs... 123 Ptim., gais...40,000 Cartridges, cs 7 Powder, lbs 60 7 295 Wire, pkgs... 20 331 Glassw'e,pkgs Sew. mach.,cs 39 1,120 682 Guns New Zealand.

Petlm., gals.85,000 9,179 British Guiana. Petlm.,gals..20,000 2,000 Glassw'e, pgs. 44 180 Stpd.ware, cs. 2 18 British North Amer-loan Colonies.

79 Lub, oil, bbls, 50 Metal g'ds, cs. 41 2,01 Hdw., pkgs. 38 2,32 1 Hdw., pkgs. 38 2,32 1 Hdw., pkgs. 3 200 Ftlm., gals. 161, 891 12, 144 Mach'y, pkgs. 5 1,112 Platedwe, cs. 5 80 Hdw., cs. 5 1,112 Platedwe, cs. 5 80 Glasswe, pgs. 22 Platina, cs. 1 2, 200 Ag. imp., pkgs. 148 4,000 Cars. 2 1,869 French East Total Coal, tons....1393 4,052 Ptlm., gals....1440 112 Blaye. Ptm., gals..259,415 17,500 Barcelona, French East Indies. Ptlm., gals. 119,064 9,992 Havre.

Ptlm., gals.. 76,750 8,000 Alexandria. Ptlm., gals. 220,000 11,800 London. London.

Sew.mach., cs roi , co. Slates, cs. ... 38 rs. Glasswe, pgs. 91 r.4sz. 45 r.6d. 34 riv. 18 ri French West Indies. Ptlm., gals...12,000 1,230 Ptm., gls....2,400 250 Glassw'e, pgs. 40 178 Valencia.

Pumps, pkgs. 13 1,130 Petim., gals.49,930 4,510 Lisbon. 4 3,738 Ptlm. gals...ioi, 176 7,032 Coal, tons... 20 60 Bristol. Hdw., cs... Danish West Indies. Oporto. Hdw, cs. 5 Silverw're, cs. 7 Petlm, gals..2,000 Ag. imp., pkgs 10 Ptlm., gals.244,744 20,569 Hayts. Porto Rico.

Arnson & Wilzinski,
Mdse., pkgs., 65
Baldwin Bros. & Co.,
Mdse., pkgs., 18
Tubes, cs., 2
Bloumfeld J. C. & Co.,
Hdw., cs., 1
Blumenthal A. & S.,
Mdse., pkgs., cs.,
Mdse., pkgs., cs.,
Hdw., cs., 70
Hdw., cs., 70
Hdw., bbls., tooc
Collins & Co.,

Curley J. & Bro.
Cutlery, place Curiey J. & Bro.
Cutlery, pkgs., 2
Davis, Collamore & Co.
Hdw., pkgs., 8
DeGrauw, Aymar & Co.
Chains, 5
Chains, csks., 3
de Jonge J. & Co.
Friedmann & Lauterjung.

631 8

Venezuela.

Cuba.

Hdw., pkgs... 46
Coal, tons... 69
Mach'y, pes... 354
Ag, imp., pkgs... 15
Mf. iron, pkgs... 25
Iron, pkgs... 25
Iron, pkgs... 27
Sew. mac, cs... 77
Sew. mac, cs... 73
Tinware, cs... 20

Africa.

Japan.

Liverpool.

riedmann & Laute Jung, Cutlery, cs., 5 Mdse, pkg., 1 Hecht Bros. Mdse, pkgs., 2 Herrmann H. & Co. Mdse, pkgs., 3 Hemrichs C. F. & Hdw., pkgs., 3 Howard B. & Sons, Hdw., hhd., 2 Howard, Sanger & Co., Lewis Bros. & Co. Mdse, pkgs., 3 Mdse, pkgs., 4 Post, Spiegel, tons, roc
Spiegel, tons, roc
Phelps, Dodge & Co.
Sheet iron, bdis., 38r
Pierson & Co.
Selfar fron, bdis., 22
Selfgran J & W.
Raiis, 2064
Wilcox E. B.
Wire, csk., 1 Wire, csk., r Wolff R. H. & Co. Wire, pkgs, 375 Mdse., pkgs, 23
Mason J. W. & Co.
Mscoy & Co.
Mscoy & Co.
Mscoy & Co.
Msc., pkgs., 2
Hdw., cs., 4
Merchants Dispatch Co.
Guns, cs., 6

Wire, pkgs, 375
Order,
Bars, 662
Ore, tons, 5371
Plg, tons, 100
Sheet fron, pkgs., 600
Spiegel, a quantity
Spiegel, tons, 1640 Guns, cs., 6
Moore's, John P. Sons,
Arms, cs., 16
Mulford, Carey & Conk-Bank of Montreal, Bank of Montreal,
Old scrap, ps., 502
Dodge Alfred,
Wire, csks, 2
Wire, cs., 7
McCoy & Co., 7
McCoy & Co., 7
McShet steel, bale, 1
Naylor & Co., Scrap, tons, 17434
Scrap, a quantity
Old steel rails, pcs.,
1378 minord, Carey & Coni lin, Hdw., csir., r Perkins & Co., Coal, tons, 2034 Pfizer Chas. & Co. Antimony, kegs, so Purdy & Nichols, Tin capsules, cs., r Rogert H. A.

Tin pans, cs., r Rosenthal J. & Co. Hdw., cs., r Rubber Comb and Jew-elry Co. Grindstones, re Prosser Thos.
Bundles, 60
Woodford W. O.
Bars, 84
Bundles, 201
Cases, 11
Order, Grindstones, 72
Sehoverling, Daly &
Gales,
Mdse., pkgs., 2
Arms, cs., 5
Tubes, cs., 4
Schuyler, Hartley &
Graham,
Guns, cs., 1
Taylor Thomas,
Hdw., csk., 2

Grider.

Grases, 11

Order.

Grases, 12

Order.

Bundles, 67

Cases, 1

Old scrap, pcs., 6c4

Old spring steel, a

quantity

Metauts.

Bruce & Cook,

Tin plates, bxs., 451

Cort N. L. & Co., 451

Cort N. L. & Co., 373

Dale John G.

Tin plates, bxs., 10c4

Drexel, Morgan & Co.

Tin plates, bxs., 10c6

Grinnell, Minturn & Co.

Yel, metal sheath
ing, cs., 20

Naylor & Co.

Tin plates, bxs., so61

Phelps, Dodge & Co. Hdw., csk., z Thomas & Co. Cutlery, cs., z Van Cleff & Co. Ironware Van Cleff & Co., 1 Ironware, cak., 17 Ironware, ca., 7 Von Dorp, Aug., Steteware, ca., 8 Waefelaer & Duyators, Hook nails csks., 1 Wiebusch & Hilger Hdw. Co. Cutlery and hdw.,

Vitte John G. & Bro. Knives, cs., 3 Needles, cs., 2 Wolff H & Co. Phelps, Dodge & Co.
Tin plates, bxs., sofz Tin plates, bxs.,
11,000
Pratt Chas. & Co.
Tin plates, bxs., 500
Semon, Bache & Co.
Tin sheets, cs.,
Turner, James,
Tin plates, bxs., 231
Western Trans, Co.
Tin plates, bxs., 404
Order,

der, Copper ore, cm., 2 Lead, tons, 130 Spetter, plates, 2536 Tin, bbls., 8 Tin ingots, 3474 Tin plates, bxs., Tin and terne plates, bxs., 2216

# PHILADELPHIA.

Wolff S. N. & Co.
Mdse., pkgs., 3
Wolff S. N. & Co.
Mdse., pkgs., 30
Woodruff A. J.
Mdse., pkg., 2

Order, pkg., 2
Order, Arms, cs., 51
Caps, cs., 2
Coal, tons, 1073
Emery stone, to

Gunstocks, cs., 9 Hdw., csks., 4 Hdw., cs., 8 Hdw., pkgs., 49

Office of The Iron Age, 220 South Fourth St. PHILADELPHIA, June 24, 1870.

Pig Iron.—The market remains in about Pig Iron.—The market remains in about the same condition as noted in our last; prices are very firm and stocks show further impairment, so that there is a general expectation of higher figures after the midsummer holidays. Buyers find it difficult to place orders to any extent as the leading place orders to any extent, as the leading furnaces have their products largely engaged, and are unwilling to enter into furnet contracts at present prices. Two of contracts at present prices.

96 806 356 ther contracts at present prices. Two or the leading companies, running in all seven furnaces on Gray Forge, recently advanced furnaces on Gray Forge, recently advanced their prices half a dollar per ton, but the demand has been so urgent that they have been compelled to decline orders, even at Ptlm., gals. 505,000 55,550 been compelled to decline orders, even at the advanced price. We understand that two or three other furnaces, which are shortly to be put in blast, have their pro-ducts engaged for some months to come, so that there seems to be no immediate possi-bility of stocks accumulating. Taking average that there seems to be no immediate possibility of stocks accomulating. Taking everything into consideration, the market seems 455 226 thing into consideration, the market seems stronger to-day than at any time since 1875, and there is no doubt the improvement is based upon the urgent requirements of consumers in all departments of business. Bessemer Iron has again been active, and large sales are reported on Western account, with inquiries for 5000 to 10,000 tons additional. We quote: No. 1 Foundry, \$18.50 @ \$19.50; Mottled and White, \$15 @ \$15.50; market very firm. Sales of Bessemer Iron at unchanged figures.

changed figures.

Blooms.—The market is unchanged and sales of small lots are made at about the following rates: Sunken Scrap Blooms (2464 lb), \$38 @ \$39; Northern Ore ity Charcoal Billets (2240 lb), for wire ity Charcoal Billets (2240 lb), for wire sales are lourposes, \$58 @ \$60; Bars do., (2464 lb), \$53 @ \$55; Cold-blast Charcoal Plate Blooms, \$50 @ \$53; run-out Anthracite, \$45 @ \$47.50.

Muck Bar.—The demand continues active, and sales to a considerable amount have been effected during the week—includnave been effected during the week—including two lots of 500 tons each. Holders are firmer in their views, and orders cannot be placed within half a dollar per ton of the price current a week ago. We quote \$30.50 (@ \$32 at mill, with sales chiefly at the lower figure.

Structural Iron.-A considerable Structural 1ron.—A considerable amount of business seems likely to come on the market within a short time, and renewed activity may be expected at the mills after the midsummer holidays. The current de-

nand is very fair and business is entirely mand is very fair and business is entirely satisfactory, except in the matter of prices. An order for about 300 tous of Beams for a city brewery has been taken during the week, but at a figure which cannot leave much margin for the seller. In a general way the market may be called firmer, although the sale referred to was at an exception. tionally low price. Angles in small lots are in active demand, and in most cases command slightly higher prices. We quote same as last week: Angles, 2.1¢ @ 2.3¢; Tees, 2.3¢ @ 2.4¢; Beams and Channels, 2.5¢ @ according to specification.

Plate and Tank Iron. - We have again to report good demand for Plate Iron, with sales during the week, in moderate sized lots, to the extent of 1000 or 1200 tons. Half this amount has been taken for bridge purposes, the balance being for general work, mostly in the shipyards. The mills are well situated as regards orders, but prices are very low, and although manufac-turers ask higher prices, it is difficult to obtain any advance at this season. It is confidently expected that in this respect an improvement will be realized after midsummer, although in the meantime buyers can place their orders at former figures. Skelp Iron continues active, and in addition to several sales during the week at full prices, further orders are in the market. We quote Skelp, 1.9¢ @ 2¢; Sheared ditto, 2.2¢ ther orders are in the market. We quote Skelp, 1.9¢ @ 2¢; Sheared ditto, 2.2¢ @ 2.3¢; Common Plates, 2.2¢ @ 2.3¢; Tank Iron, 2.2¢ @ 2.4¢; C. No. 1, 2.4¢ @ 2.6¢; Shell Iron, 2.75¢ @ 2.9¢; Flange Iron, 3.7¢ @ 4¢; Solid Firebox, 4.85¢ @ 5¢, and Best Bloom, 5.5¢ @ 6¢.

Sheet Iron.-The demand continues active, and a large amount of busines has been done since date of our last report. Galvan-ized Iron is also very active, and sales are said to have been larger than at any-time in the history of the trade. Sellers are not pushing business, as prices are said to leave very little margin to the manufacturer, and it is believed that higher rates must prevail as the season advances. In the meantime we quote for small lots as follows: Common Sheet, rer small lots as follows: Common Sheet, No. 20 to 23, 3.2¢ @ 3.3¢; No. 24 to 28, 3.4¢ @ 3.5¢; Best Refined Sheet; No. 25 to 28, 3.6¢ @ 3.7¢; No. 16 to 24, 3.4¢ @ 3.5¢; Best Bloom Sheets, No. 16 to 24, 5.5¢ @ 5.7¢; No. 25 to 28, 5.8¢. @ 6¢; Refined Plates or Blue Annealed, 5-16 to 16, 2.0\$\(\phi\) = 2.7\$\(\phi\) : Best Bloom, 5-16 to 16, 5.3\$\(\phi\) (\phi\) = 5.5\$\(\phi\); A Patent Planished, 10\(\phi\phi\); Best Blooms Galvanized, 45 \(\precent{\pmi\}\) discount; second quality, 55 \(\pi\); extra discounts for large lots.

extra discounts for large lots.

Bar Iron.—There is no change in the condition of the trade. A fair amount of business is doing at full prices, but there is no urgency either to buy or sell. The tendency of the market is toward higher prices, and all the indications point to an advance at no distant date. The certainty that material, fuel and other items are all at the lowest point, and liable to advance at short notice, prevents sellers from entering into extended engagements; and, as consumpextended engagements; and, as consump-tion is unusually heavy, higher prices in the near future are regarded as an absolute certainty. In the meantime, although the mar-ket is very firm. We quote 1.8¢ to 2.0¢, according to quality.

Axles—Are very active. Sales to a considerable amount have been effected within the week at full prices, with further orders

Steel Rails.—The market is without special change, although we notice sales to a larger extent than might be expected with mills so crowded with work as they are understood to be. One sale of 5000 tons has been closed to-day, and others to the extent of 10,000 additional are said to have been placed within a week. Prices have not been made public, but there is reason to believe made public, but there is reason to believe that important concessions have been made for late deliveries. Full prices are, no doubt, exacted for prompt delivery, but there is evidently a disposition to shade prices in preference to losing orders for winter and spring work. We quote \$44 @ \$46, at mill, as nominal prices, with sales of small lots at these figures for prompt delivery.

Iron Rails.-We have again to report a very active market, with actual sales to the extent of nearly 10,000 tons. We hear of three lots—viz., 4000, 2000 and 1500 tons— having been closed, in addition to several 2.50¢ small lots, with further orders by the content of small lots, with further orders in the mar-ket to the extent of 15,000 tons. Prices are ket to the extent of 15,000 tons. Prices are there was a few weeks ago; nor is it to be again firmer, although one important order was taken at a price materially below our was taken at a price materially below our quotations. The extreme range of prices at which business has been done is \$35.50 @ \$39.50, at mill, with \$37 now quoted as a minimum price for ordinary sections. The high price demanded for Old Rails and other Co., and Graff, Bennett & Co. are still idle. ial compels manufacturers to insist on an advance, and there is little probability of orders being placed unless at full prices -say, \$37 @ \$39, at mill, according to location, section of Rail, &c.

Old Rails,-A large business has been Old Rails.—A large business has been done during the week, prices showing a further advance, without at all cheeking the demand. Sales of 2000 tons foreign Rails are reported at \$23.50, small lots at \$23.75, and \$24 asked for lots to arrive. So far as we can learn, the market is still bare of stock, so that sellers are not likely to make concessions at present. The fact of the matter is that consumption is beyond precedent, so that when Rails are offered, they are cargiv taken, without much regard to are eagerly taken, without much regard to price. The scarcity of low grades of Pig Iron has considerable influence on the mar ket, although a reaction is still looked for, and may occur at any time. In the mean time, buyers are as eager as ever, and good lots would to-day command prompt sale at \$23.50. The market is absolutely bare of stock, and \$24 is asked for lots to arrive, with buyers at \$23 @ \$23.50.

Spikes-Are in active demand at full prices, viz.: 5½ x 9-16, 2¼¢; ½ x 4 and longer, 2½¢; 7-16 x 4 and longer, 2.6¢; ¾ x 31/2 and longer, 30.

### PITTSBURGH.

Office of The Iron Age, 77 Fourth Avenue, Pritisbungh, PA., June 24, 1879.

While general business is slacking of somewhat, a more hopeful feeling prevails, which is stimulated by the fact that the volume of business the second quarter of the year has, both in manufacturing and mer-

cantile circles, exceeded that of same time of any former year for some years past, and what is equally, if not still more important, is that values have been maintained better. There is not the same disposition to cut prices that there has been. Our manufac-There is not the same disposition to cut prices that there has been. Our manufacturers have come to the conclusion that they have worked for nothing, or at a loss, about long enough; and, besides, there is no necessity for it now, as competition is not so strong. The consumption of nearly all kinds of manufactured goods is increasing, while the production remains about the same, and in this important particular things are in better shape than they have been at any time since the panic. There is now every indication of a good fall trade; stocks of nearly all kinds of manufactured goods are light, both in first and second hands, while consumption is increasing. onsumption is increasing.

Another important and encouraging mat-Another important and encouraging mat-ter worthy of mention in this connection, is that late and reliable advices from the South report that there is no yellow fever, nor is there likely to be this summer; and, moreover, the cotton and other crops are said to be looking splendidly. Last year the South-ern trade was very much curtailed by the terrible scourge that prevailed from July until November, but if, as now seems probable, there should be no epidemic, and the crops turn out as well as expected, we look for a largely increased demand from that quarter this fall for all kinds of manufactured code. tured goods

Pig Iron.-While business is not to active, it is all that can be expected at this season. It is customary with many of the mills to stop next month to take sto make repairs, and they make it a point, or-dinarily, to have as little stock of raw iron on dinarily, to have as interestors of raw from the hand as possible at that time. Hence the de-mand just now is of a hand-to-mouth charac-ter, but the tone of the market is that of firmter, but the tone of the market is that of firmness, and the tendency is unmistakably upward. Some of our commission merchants report that they have been instructed by their principals, within the past week, to demand an advance. The cost of production is greater than it was a year ago, as ores and coke are higher, with labor tending in and coke are higher, with labor tending in the same direction; hence it is not strange that furnacemen are very firm, and some of them already, notwithstanding this is the dull season, demanding an advance. The visible supply—not only here, but in the Shenango and Mahoning valleys—is light, unusually so; but very few of the furnaces have "piled up" any for a year or more nast, and furnacemen are more sanguine of past, and furnacemen are more sanguine of remunerative prices now than they have been at any time since the panic. Bitu-minous Coal Smelted Irons are quotable as follows: Foundry, \$19 @ \$21, 4 mos.; Mill, \$15 @ \$17, for White and Mottled; \$18 @ \$18.50 for cinder mixture Red Short, and \$16.50 for cinder mixture Red Short, and \$19.50 @ \$20 for all ore do. Bessemer—Small sales for foundry use at \$21.50 @ \$22, 4 mos. Coke Irons—Sales of Mill at \$16 @ \$16.50, cash, for best brands—the outside figure an advance. Anthracite—Foundry, \$20 @ \$22, 4 mos., and Neutral Forge, \$16.50 @ \$17, cash. Charcoal—Sales of Cold Blast \$26 cash to \$20,50 A mos. There has at \$26, cash, to \$30.50, 4 mos. There has not been a single sale of Blooms reported for everal weeks.

Manufactured Iron.-Some of the mills are very full of orders and pressed to their board pipe line has, by competition, stiffened full capacity, and business in general is more up the market considerably, and, by reducactive than usual at this season of the year. One of the largest mills is so pressed to keep up with its orders that the proprietors canup with its orders that the proprietors can-not find time to stop even a couple of days to make needed repairs. It looks very much now as if there was going to be an active trade all summer, as stocks are light and the consumption increasing; and while there has as yet been no actual advance, a firmer faciling is being developed, and manufacfeeling is being developed, and manufac-turers are not inclined to make contracts for forward delivery at current rates. It is about as well established as anything can be that the cost of production is down to the lowest limit. There is no prospect of any reduction in labor, and raw iron is tending upward; hence, if the rates now ruling, as is claimed, afford no margin for profit, it behooves the manufacturers to put up prices and this they will no doubt do before long. We contine to quote Bars at 1.70¢ @ 1.75¢ 60 days, 2 per cent off for cash; Sheets, 2.75¢ @ 2.80¢ for No. 24; Tank, 2.40¢ @

Nails.-There is not as much inquiry as The extreme range of prices until the fall trade opens, which is usually in Zug & Co. have not made a nail since last July. Prices are weaker, and as compared with a few weeks ago, are irregular. We hear of sales of car lots at \$2.05, 60 days, per cort. off for cash, and in a jobbing way at \$2.15. At Wheeling the card remains unchanged at \$1.90, 60 days; but we understand that there are no sellers there under \$2.00 net cash, and that manufacturers, with a single excep-, would like to put the price to 5. Nails are too low in the West as com-\$2.25. pared pared with Iron, and should, in justice to manufacturers, be advanced. The regular monthly meeting of the Western Association takes place here on the second Wednesday of July, and it is probable that some action will be taken in regard to prices.

Horse and Mule Shoes.-There is a fair business, but no change in prices; 100-keg lots, \$3.25 @ \$4.25 per keg; larger lots spe-

Railroad Spikes.—There is a continue good demand, and price is steady at 2¼¢

Wrought Iron Pipe.—There is no abatement in the demand for Pipe, and prices are firm; discount on gas and steam, 62½ @ 65, the inside figure for small lots. The mills here are all full of orders, and a fur-ther reduction in discounts is not improba-

in Pittsburgh. The Edgar Thomson Mill is sold up until November, and looks very because the price offered was not satisfactory; and that is about the healthiest item orders booked to absorb their entire production. Steel Rails unchanged at \$25 @ \$26. Old Iron Rails firmer, with a fair inquiry, but prices remain as last quoted, \$22 @ \$23. So far as we can learn there have been no sales in this market above \$23.

Steel.-There is nothing new to note in regard to this important interest. Business continues fairly active, the mills have about continues fairly active, the mills have about all they can do, and prices are steady, but unchanged. Tool Steel, 101/6 @ 121/2 @ 12/2 @ 7\$. Steel shafts for steamboats are now being talked of, and the matter will be tested this fall or winter. The consumption of Steel has increased wonderfully within the natt few years. the past few years.

Scrap.-There is a fair business and prices are steady; indeed, for most of the leading articles values are low here when cost at sources of supply are taken into concost at sources of supply are taken into consideration: Old Car Wheels, \$10 @ \$20, gross; Machinery Metal, \$14 @ \$15; Cast Borings, \$10.50 @ \$11; Car Springs, net, \$29 @ \$30; Car Axles, \$27 @ \$28; Wrought Turnings, \$14 @ \$15; No. 1 Wrought Scrap, \$22 @ \$22.50.

Window Glass.—According to agreeme all the factories in the West will stop July It is customary to stop during the two months in question in consequence of the hot weather. The business during the first half of this year, so far as relates to Pittsburgh, has been unusually good; in volume it has exceeded that of same time in any former year since the panic, and prices are also firmer and better. It is also worthy of note that notwithstanding the factories here have been running steadily since and includnave been running steadily since and includ-ing last September, manufacturers' stocks are very light, and some of them are troubled a good deal to know how they are to meet the wants of their customers during the next two months with the factories stopped. Prices firm, but unchanged; carlots, 75 and 5%; in a jobbing way, 70 and 10 to 75%. There is some talk of reducing the discount in car-lots to 75%, straight.

Coke.—There has been nothing particu larly new developed in the course of the market recently; business continues fairly active. The demand is sufficient to absorb the production, and while prices remain un changed, a firmer feeling prevails, owing to the more encouraging outlook in Pig Iron. We continue to quote at \$1.20 @ \$1.30 per ton, delivered free on cars at ovens.

Coal.—The situation continues anything but encouraging for our coal operators; navigation remains suspended, and while it is hoped that there will be a rise soon, the prospect is not very encouraging at the pres-ent writing. Stocks in the down-river markets are very much reduced, and prices The quar have gone up in cousequence. The quantity loaded here in boats and barges, ready to move as soon as there is water, is estimated at \$15,000,000 bushels, and some operators have all their capital locked up in these

black diamonds, and are in an ugly position. Petroleum.—The completion of the seaing the cost of transportation more than 50 %, has enabled producers to obtain a better price for their product. The United Pipe line is delivering crude oil from the producing region at New York at 35% & bbl., and Philadelphia and Baltimore at 30% Bibl., and Falladelphia and Baltimore at 307 B bbl., including pipeage. The pipeage alone was 20¢ ∰ bbl. prior to the reduction in question. Freights on refined oil from here to the seaboard have been reduced more than one-half, and nearly all the standard refineries have been started up.
The rates now are: To New York, 50¢ bbl.: to Philadelphia and Baltimore, 45¢ The outlook is much more encouraging than it has been for some time past—one of the good effects of competition; and the producers, since the completion of the seaboard pipe line, feel that they are no longer at the mercy of the railroads and Standard Oil Company.

### CHATTANOOGA.

Office of The Iron Age, Market and 8th Sts., ( CHATTANOOGA, June 23, 1879.

Business in a general way has been fair during the past week. Farm operations are just now quite active. The new crop of wheat, which turns out to be of excellent quality and fair yield, is being thrashed, and small amounts are being marketed at an average of about \$1 per bushel for No. 1 Manufactures in all lines continue to improve. Stocks of all kinds are light, and inquiry has been more brisk than for

\$27.50; do., Extra Standard, \$24 @ \$29.50; Forge, \$17 @ \$22.

Muck Bar, &c.—\$27 @ \$34; Old Rails, \$19 @ \$20; Wrought Scrap, \$20 @ \$21. Old rails and wrought scrap are very stiff at quotations, with advancing tendenci

Ores.—Brown Hematite, 50 to 56 %; per ton, \$1.75 @ \$2.25. Red Fossiliferous, 50 @ 56 %; per ton, \$1.20 @ \$1.60. The above prices for ores delivered in Chattanooga on cars, or on the wharf from flat boats.

Nails.-The market is good, but rates do Nails.—Ine market is good, but rates do not advance; and this condition continues in spite of the fact that all the Pittsburgh mills are idle. No better evidence could be needed to show that the Nail business has ble. Boiler Tubes still quoted at 50 % off. Oil Well Casing, 65 % @ 70 %, net; do. Tubing, 17 % @ 18 %. There is not much inquiry for the latter, owing to the depressed condition of the oil business.

Rails.—There is no abatement in the demand for Steel Rails, and the market is quoted firm at \$44, cash, delivered on cars

Manufactured Iron.—The demand for Bars is fair and stocks are sold low. If bars is fair and stocks are sold low. If there shall be any advance, manufacturers will reap the principal benefit of it. Rail-road track fittings are in very good demand. The Vulcan Works have just tract for 80 miles of Splices, Bolts and Spike for the Gulf, Colorado and Santa Fe. W

for the Guif, Colorado and Santa Fe. We quote: Bars, 2¢; Railroad Spikes, 2½¢; Light Rail, 2¼¢; Track Bolts, 3¢; Trestle Bolts, 4¢.

Coke.—We quote 11¢ @ 15¢ per bushel for washed foundry. Furnace, full supply at \$2 per ton, free on cars at Chattanooga or South Pittsburg. outh Pittsburg.

Coal.—There is no change in the market

nor in prices. We quote run of mine, free on cars in Chattanooga, at \$1.25 @ \$1.75 Lump, as per quality, 10¢ @ 12¢

Pig Lead—4¢; Ingot Copper, 18¢.

1ron Ralls.—The mill here has all it can
to for several months. Prices remain strong. \$36 \$3 ton being an inside figure.

Steel Rails.—We quote at \$47, at the mill, and the demand beyond the ability of the mill to supply.

### ST. LOUIS.

Sr. Louis, Mo., June 23, 1879.

Pig Iron.—There is no change to note in the price of Iron since last week's report.

Trade is holding up remarkably well considering the season of the year, which is usually a dull one with us.

CHARCOAL HOT BLAST.		ı
Missouri	\$10.50 @ 20.00	ı
Southern	18.50 @ 10.50	ı
Hanging Rock	21.00 @ 22.00	ı
COKB AND COAL		ı
Missouri	None offering	ı
Southern, No. 1	18.50 @ 19.50	L
Ohio River, No. 1	19.00 @ 21.00	I
Jackson County, No. 1	19.00 @ 20.00	L
Hocking Valley, No. 1	19.00 @ 20.00	ı
Anthricite	20.50 @ 21.00	ı
No. 2 and Mill \$1 @ \$2 per ton less.		Ł
COLD BLAST,		ı
Missouri	25.00 @ 30.00	ı,
Southern	25.00 @ 30.00	Ŀ
Ohio	30.00 @ 32.00	ł
IRON ORE.		L
Iron Mountain	5.50 @	ı.
Southwest	4.75 @	ľ
Ore for fix	6.50 @	H
Old Rails.—There is consider	able inquiry	ľ

Old Kalls.—There is considerable inquiry for Old Rails, with few offering, and 50¢ @ \$1 ₱ ton could be obtained for immediate delivery. We therefore quote \$21 as present market price.

JUNE 20.—Pig Iron.—Our market contin-ues steady and unchanged. The inquiry for Pig is now confined to small parcels, but the outlook is bright, and there is a decided feeling of confidence in the future of the metal. Small lots of Pig Iron from the city stores and wharves readily command \$21.50 @ \$23 P ton for No. 1 X, and \$20 @ \$21 for No. 2 X. Manufactured Iron.—Bar is firm and in fair demand from the stores at 1%¢@ 2¢ P B; and the mills are still moderately busy on orders booked on a basis of \$41 @ \$42 for large lots of Refined and \$38 for Common. From present appearances the forthcoming summer vacation will not be prolonged from any lack of business. The pronounced feel-ing of confidence which now exists in this trade is indicated in some degree by the re-cent action of a Pittsburgh manufacturer, who this week instructed his correspondent at this point to hold firm at \$1.95 on a lot of his Iron which he had previously ordered cleaned out at a concession. Nails conof his Iron which he had previously ordered cleaned out at a concession. Nails continue in good demand at \$2.25 \( \frac{1}{2} \) keg on a rod. basis. Sheet Iron is quiet and steady at 2\( \frac{1}{2} \) \( \fr Plate iron is in good request at \$2.30 for Tank, \$2.50 for C. No. 1, \$2.75 for Shell, \$3.75 for Flange. These prices are from the mills. Small lots from the stores readily the mills. Small lots from the stores readily command an advance of 25¢@ 50¢ above these figures. We quote American Tool Steel at 11½¢@ 12½¢; English do. at 14½¢@ 15½¢; American Spring Steel at 5¢@ 6¢; English do. at 7¢@ 8¢; Tire Steel at 3½¢@ 4¢; Bessemer Machinery at 4¢@ 5½¢, and Cast do. at 5¢@ 6¢. Copper.—Ingot Copper is dull, but prices of Lake are still firmly maintained at 16¾¢@ 17¢. There is no change in manufactures, and we continue no change in manufactures, and we continue to quote New Sheathing at 22¢; Braziers at 24¢ @ 26¢, and Bolts, 24¢; Yellow Metal Sheathing sells at 14¢ @ 14½¢ for American and 12¢ for English in bond. Lead.—The demand has been very moderate Pig Iron.—The demand continues quite brisk. Prices are stiff at quotations. An early advance is confidently looked for by holders and producers. We quote: Coke Irons—No. I Foundry, \$17,50@\$18.50; No. 2, \$16@\$17; Gray Forge, \$14.@\$15; White and Mottled, \$13. Hot-Blast Charcoal—No. I Foundry, \$16@\$18; Gray Forge, \$14.@\$15; White and Mottled, \$15. Cold Blast Charcoal—Car Wheel Metal, \$22.50@ \$27.50; do., Extra Standard \$22.50@ in the service of the late advance. We quote small lots from store: Pig, 4½¢@ 4½¢; Lead Pipe, 5½¢; Tin-lined Pipe, 12¢; Bar Lead, 6¢; Sheet Lead, 6¢; Block-Tin Pipe, 30¢; all of these except Pig are subject to the usual trade, or 10 ½ discount. These quotations of manufactures are advanced. Antimony is still in light demand at 11¾¢ for large lots and 12¢@ 13¢ for smaller parcels. Spelter shows no improvement, and though \$27.50; do., Extra Standard \$22.50@ in the late advance. We quote small lots from store: Pig, 4½¢@ 4½¢; Lead Pipe, 5½¢; Tin-lined Pipe, 12¢; Bar Lead, 6¢; Block-Tin Pipe, 30¢; all of these except Pig are subject to the usual trade, or 10 ½ discount. These quotations of manufactures are advanced. Antimony is still in light demand at 11¾¢ for large lots and 12¢@ 13¢ for smaller parcels. Spelter shows no improvement, and though \$27.50; do., Extra Standard \$22.50@ in the late advance. We quote small lots from store: Pig, 4½¢@ 4½¢; Lead Pipe, 5½¢; Tin-lined Pipe, 12¢; Bar Lead, 6¢; Block-Tin Pipe, 30¢; all of these except Pig are subject to the usual trade, or 10 ½ discount. These quotations of manufactures are advanced. Antimony is still in light demand at 11¾¢ for large lots and 12¢@ 13¢ for smaller parcels. Spelter shows no improvement, and though still in light demand at 11¾¢ for large lots and 12¢@ 13¢ for smaller parcels. Spelter shows no improvement, and though still in light demand at 11¾¢ for large lots and 12¢@ 13¢ for smaller parcels. Spelter shows no improvement parcels. since our last, and though prices have been firmly maintained at 4¢ for large lots of Pig, very little confidence is felt in the permain the near future, the market is generally flat. Small lots from store are quoted at 5¢ @ 5¼¢, and larger lots from the works at 

### CINCINNATI.

at remunerative figures because of previous engagements, which demand all they can turn out. Few, if any, special lots of good quality are pressing for sale, and the light supply of Old Rails affects the market for Forge Iron favorably. Unquestionably the market is in a healthier condition than for a

73	long white.
-	HOT-BLAST FOUNDRY.
	Hanging Rock C. C., No 1\$21.00 @
	" CC We - ' 'A
1-	Hanging Rock Coke and S. C., No. 1. 17.50 @ 20.00 S. C., No. 2. 15.00 @ 17.00
8	8, C., No. 2., 15,00 @ 17,00
e	Virginia Coke, No. 1
6	No. 2 18.50 @ 19.00
;	Shawnee S. C., No. 1
0	" S. C., No. 2 17.00 @ 18.00
٠.	Hocking Valley Q C No. 17.00 (6 18,00
_	Hocking Valley S. C., No. 1 19.00 @ 20.00
1	17.50
t	Southern Coke, No. 1 X 20,00 @ 20.50
	No. 1 19,00 @ 20,00
r	
	FORGE TRONS.
4	Hanging Rock, No. 1 C. C 18.50 @ 19.00
t	Hanging Rock, No 1 Coke 17.00 @ 17.50
0	Longdale, No. 1 Coke
9	Ala, and Tenn. No. 1 C. C
Ś	Red-short, No. 1 Coke
2	Cold-short, No. 1
	Old Rails, prime
	Southern Coke 18.50 @ 19.50
	CAR WHEEL AND MALLEABLE.
1	Hanging Rock C. B 28.00 @ 30.00
	Cherokee C. B.
7	Southern and Western Brands 26.00 @ 28 00
	20,00 @ 20 00
Pa I	T OFFICE COLUMN TO

LOUISVILLE. Messrs. GEO. H. HULL & Co., under date of June 23, write us as follows: The volume of business is large, both for immediate and future delivery. Prices are firm. The usual time, 4 mos., is allowed on the quotations

below:	211		71174
FOUNDRY IRONS.			
No. a Hanging Rock, Chargoal	ar.00	20	99.00
No. 2	10.00	Ga	20.00
No. 2 No. 1 Southern, Charcoal	18.50	0	10.50
No. 2 " " "	18.00	8	18,40
No. r Hanging Rock, Stonecoal and		-0	10,30
Coke	10.00	0	19.50
No. 2 Hanging Rock, Stonecoal and	49.00	49	19.30
Coke	18.00	0	18.50
No. z Southern, Stonecoal and Coke			10.00
No. 2 46			18.00
"American Scotch"	18.00		
Silver Gray	15,00		
MILL TRONS.	13,00	40	17.00
No. 1 Charcoal, Cold-short and Neut'l.	17.00	-	
No. 1 Stonecoal and Coke, Cold-short	17.00	-	10.50
and Noutral	.6	-	
No. 2 Stonecoal and Coke, Cold-short	16.50	(P	17.00
and Neutral	16,00	0	.6
No. 1 Missouri and Indiana Red-short.	20,00		
White and Mottled, Cold-short and	20,00	Th	21,00
Neutral	15.50	20	-6
CAR WHEEL AND MALLEABLE IR	13.50	Th	10.00
Hanging Rock, Cold-blast	083.	a	
Alabama and Georgia, Cold-blast	28.00	00	33.00
Kentucky, Cold-blast	20,00	20	30,00
Rentucky, Colu-Diame	27.00	400	30,00

W. B. BELKNAP & Co., Iron and W. B. BELKNAP & Co., Iron and Steel merchants, Nos. 113 and 115 West Main street, under date of June 23, write as follows: We have to chronicle another week of fair and steady general business, and of activity at the rolling mills quite unexampled for the season. We have not since the panic seen so much stir and bustle and hopefulness about the future in Iron circles. There is every indication that the circles. There is every indication that the demand for Iron for railroad construction and equipment, large as it is, will increase rather than decline from this time forward. Certain improvements in the railway system of Louisville, in the way of branch extensions and through connections, will not be much longer delayed, and the completion of the Big Sandy connection with the Chesa-peake and Ohio, and of the St. Louis Air Line, will bridge the gaps at present exist-ing in the best and shortest through route from the West to the Atlantic seaboard. Demand for new rolling stock continues heavy, and the Ohio Falls Car Works finds its immense capacity taxe to supply it. The market, both for Pig and Manufactured Iron, may be quoted strong, with an advanc-ing tendency. The agricultural situation is fron, may be quoted strong, with an advanc-ing tendency. The agricultural situation is fairly good in spite of early droughts, and wheat is now being harvested in average quantity and much more than average quality. A prosperous business year seems cer-tain if Congress can only keep its hands off the currency and let well enough alone.

### BALTIMORE

Mr. W. N. WYETH, Iron and Steel Mer-chant, 46 and 48 South Charles street, re-ports us the following, under date of June 23: Trade for the past week has ruled very fair and improving, with values firm and unchanged at annexed figures:

and amountained on managed with a					
Refined Bar Iron, 1 to 6 by 36 to 1 1 to 416 by 156 to 2	Ib.	1.90	88	2	9
and Square	44	1.90	0	2	0
Band Iron, from 1½ to 4 in. wide Horse-shoe Iron	66	234	ā		¢
Norway Nail Rods	66	434	0	3% 5%	
Machinery Steel	44	7.	čă.	8	4
Cast Spring Steel	66	43/4		5%	å
Common Horse Nails R. R. Spikes, 5½x9-16 Perkins' Horse shoes, P keg of 100 l		10	98	2%	9
"Mule shoes	DB.		. 4	3-37	16
10	0		19	- 6	

Messrs. R. C. Hoffman & Co., Iron and Commission Merchants, No. 23 South Fred-erick street, report the Pig Iron market as follows, under date of June 23: The demand for Iron continues active and prices

ı	very nrm. we quote:	
١	Baltimore Charcoal Wheel Iron \$26.00 @	28.00
ľ	Virginia 4 11 37.00 @	
J	Anthracite No. 1 19.00 @	
1	No. a 18.00 @	
ı	" No. 3 17.00 @	18.00
١	" Motiled and White 14.00 @	15.00
1	Charcoal, C. B. Blooms 49.00 @	51.00
	" Cut Billets 52.00 @	55.00
	Refined Blooms	400 000

### RICHMOND.

Mr. ASA SNYDER, Iron Merchant and Furnace Agent, writes as follows under date of June 23: A fair business for the season is doing in Pig Iron, and the market is firm.

American Scotch Pig Iron	21.50 @	22.50
Anthracite, No. 1	20.00	21,00
No. 2	18.00 @	10.00
" No. 3	17.00 @	18.00
Mottled	14.50 @	15.50
Coke, No. 1	19.00	20,00
" No. s	18.00 @	19.00
" No. 3	16.50 @	17.40
Va. Cold-blast Charcosi, Cold-short	20.00 @	23.00
Va. " Neutral	27.00 @	28.00
Va. Warm-blast " Cold-short	18.00 @	21.00
Va. " Red-short	17.00 @	18.00
Old Rails	19.00	20.00
Wrought Scrap No. 1	17.50 (1)	10.00
Cast " (machinery)	15.00 (1)	26.00
Richmond Refined Bar Iron	- no. 68	
Horse Shoes per keg	0	
Mule " "	@	
Old Dominion Nalls, Standard Size, *		2000
keg	2.25 @	
Freights to Philadelphia, \$5,40 per to		

by sail.
Freights to New York, \$1.60 per ton of 2240 Ds.,

# Our English Letter.

eview of the British Iron, Steel, Metal and Hardware Trades.

(From our Regular Correspondent.) London, Eng., June 9, 1879. THE WHITSUNTIDE HOLIDAYS

have been very generally observed during the past week, so that there has been but a small amount of business done in the ironsmall amount of business done in the For-making districts, in which Whitsuntide is regarded as the holiday of the year. In the North of England, Yorkshire and Lanca-shire, Whit week is most hilariously kept, and it is a somewhat curious commentary on the dullness of business, that this year the has been quite an average amount of junket-ing and pleasure seeking. Excursion trains have taken thousands from the crowded inland towns to places on the sea coast or to famous beauty spots of scenery in Dorby-shire, the Lake District and elsewhere, and in every direction as much merriment (and, perhaps, dissipation) has been indulged in as during the heyday of trade. This is, no doubt, to a great extent excusable, and, perhaps, commendable; but it is a peculiarity of our working classes that they are willing to pinch, scrape and nearly starve for a certain number of weeks or months prior to Whitsuntide, in order that they may eat, drink, dress, travel and be merry for a few days then. The Sheffield grinder (always an apt illustation for writers on the idiosyncracies of artisans) is of this order of architecture. He will have a splendid joint of the best that the butcher can sell him for his Sunday dinner, and will live like prince for the first two days of the week. Toward Friday he will be in such straits that his wife will probably be compelled to resort to the pawnshop for the purpose of hypothecating the family Bible (or bellows) toward the means of sustenance for the time being. The weekly wages fur nish redemption-and soon da capo. Whitsuntide mania is of this type, but I confess my total inability to "point a Whitsuntide mania is of this type, but I confess my total inability to "point a moral or adorn a tale" therefrom. The worst part of our holidaying is that there is a great deal of drinking, although I think we have improved in that respect of late vears.

THE STATE OF TRADE

is certainly very quiet, and it is rather doubtful whether some of our iron and steel producing centers have at any time had less work in actual course of execution. hears of numerous inquiries and the placing of a variety of orders, but trustworthy re-ports from most parts of the country are convincing in respect of the slackness of the output. In raw materials and the results of first processes there certainly appears to be a moderate turn over, but as regards all classes of ordinary finished iron, the number of recent sales and their magnitude appear to be exceedingly limited. The fact seems to be exceedingly limited. The fact seems to be that the foreign markets are all more or less disorganized, poverty stricken or over stocked, while the home trade—a over stocked, while the home trade—a most important factor in any calculations of this class—is dull beyond all precedent, owing to the unusual lateness of the season, the depression of agriculture, and the bank failures in Scotland, Wales, Cornwall, &c. We are exceedingly pleased and gratified to hear that the revival of trade in the United States is real and progressive, and it is further consoling to be told that there is a distinct change for the better in France, distinct change for the better in France, but these reports have so far added little or nothing to our material welfare. Our solicitude is, consequently, rather hightened than otherwise, for some of us begin to be afraid that the flood tide is apparently running outside the old channels, and is taking the argosies of commerce to shores other than our own. We feel, nevertheless, that there is nothing for us but the exercise of than our own. We feel, nevertheless, that there is nothing for us but the exercise of still more patience, and the due preparation for exerting all our energies when the sun of renewed prosperity does emerge from behind the dark clouds which still hide it from our expectant gaze. It is certain, at all events, that we shall most keenly watch and analyze the changes which are in course of evolution abroad and with you, and that there are those among us who are eager to seize the first opportunity that shall present itself for waging deadly war upon our present tariff, or rather no tariff, system.

EARL GRANVILLE. who is, you may recollect, one of our larges ironmasters, being interested in the Lilleshall Works and two or three other concerns was in Wolverhampton the other day in connection with the ceremony of unveiling a statue of W. C. P. Villiers, who has been (and is) forty-five years member for that borough, and who has been a stanch free trader all the time. Earl Granville being a graceful speaker and a genial man, besides being an eminent politician, was put up to reply for the House of Lords, and embraced the opportunity for discounting the opportunity for discoursing on trace matters. As his Lordship's sources of information may possibly be superior to those

of the "common herd," a portion of his speech will bear quotation. He said: "In the United States, where depression began earlier and has been more severe than with us, not only trade is improved, but also that with this country is greatly increased. In Liverpool and Manchester more has been done in the last month than has been the case for a long period. In France, prices for iron are hardening, but in the British iron trade there is no such improve-British iron trade there is no such improve-ment. Lower prices, and companies who stop payment without stopping work, seem the order of the day. There is, and there will be, a great displacement of capital and great individual suffering. Complaint is made not only of stagnation, but of foreign competition, foreign protective duties, and of the substitution of steel for iron. Have complaints never been made before My father gave me when I came of age an interest in the coal and iron trade. cannot count on my fingers the number of times when prices have been high and when they een low; but this I know, that on every occasion when they were inflated I was told there were reasons why they should never be very low again, and when they

were low it was mathematically proved to were low it was mathematically proved to me that they could never rise again to their former hight. As to general trade, it will, as it has always done before, find its own level. I am not afraid of foreign competition. No country, with, perhaps, the exception of the United States, has got the same natural and acquired advan-tages for metallurgical industries as we have, and as long as these countries choose, some to exhaust their finances and have, and as long as these countries choose, some to exhaust their finances and their populations by enormous standing ar-mies, and others to tie the log of protective duties to their heels, I have no fear of the ultimate result. Following 1872 there has been in the world a decrease of the annual production of iron of 800,000 tons. Wha proportion of this reduction has happened in unprotected England ? One-fifth. proportion in the protected countries? Four-fifths. It is true that in the middle of this century we made exactly 50 per cent. of the iron produced in the world. Since then the whole quantity has been enormously in-ereased; millions of money have been judi ciously applied to the production of iron, still larger sums have been wasted upon the fictitious stimulus of protective duties. What is the extent to which our proportion of the make has been reduced? Is it 50 per cent. ? 20 per cent. ? 5 per cent. ? No, it is 1½ per cent., and we are actually making now 48 /2 per cent. of all the iron in the world. The progress made in steel is a dif-ferent thing; it does not affect the aggregate of the country, but it may widely affect the different districts. Mr. Thomas's inven tion is not yet a proved commercial success but it is likely to be so. If so, it will be a decided advantage to that part of your country to which I belong—the northern division With regard to South Staffordshire, Wor cestershire and Shropshire, the means of meeting the difficulty will have to be very carefully considered. But among the most obvious means are the improvements and economies which, under the pressure of adversity, are now being so extensively applied

to production."
These are "prave 'ords, my masters," but they have doubtless given a little comfort to the South Staffordshire people, who are beginning to feel a little out in the cold, since steel has come so prominently to the forefront.

THE RETAIL IRONMONGERS

and hardware men generally of this country, are forming themselves into an associa-tion for the purpose of bringing pressure to bear upon such wholesale houses or manu-facturers as supply the public or the various co-operative societies. I am not quite sure how the project will work out in practice, but I notice that a beginning has been made and that the two secretaries appointed at a preliminary meeting, recently held, write to their trade journal, the *Ironnonger*, soliciting the co-operation of the members of the trade. This to a great extent is aimed at

THE CO-OPERATIVE STORES, which have hitherto continued to increas and multiply, in spite of the best efforts of the retailers. What is now proposed is that no ironmonger, hardware or metal dealer, &c., should deal with any manufacturer or other person who either supplies the stores or the public. The stove manufac-turers are believed to be great offenders in this last respect, particularly in London As a matter of fact, a builder, or any other person, can go into any one of a dozen stores and get a good discount off the price of a range, kitchener, &c., and so rob his ironmonger. The same state of things exists in other branches, and the retailers now declare that they will combine to stop the anomaly. One cannot blame them for so doing, as they have to carry stock, and lose interest on it and the cost of premises, and they ought to have the advantage, it any is likely to accrue. The dealers in agricultural implements have already a good association, and its annual reports mention numerous instances in which accounts have been closed with makers who have transgressed rules laid on lines similar to the

A NATIONAL CONFERENCE OF IRONWORKERS has just concluded a three days' sitting at Manchester, the proceedings having been conducted in camera. A few details have been permitted to leak out, nevertheless, and from them I learn that there were delegates present from all the leading ironmaking districts. The secretary, Mr. Trow, brought forward in the meeting a report, in which the depression of trade was attributed to overproduction. He also stated that steel had slowly, but surely, superseded iron in every branch, and that the prospects of the iron trade are most gloomy. As a means of relief for the suffering working classes relief for the suffering working classes who had been drawn from agricultural pursuits, and who cannot now find employment, an opinion was expressed that they ought "to live upon the land," and that there would be no permanent improvement until "the land is made to support its fair share of the people, and our manufacturing population considerably reduced." In the meantime, the committee recommended emigration to Texas.

SCOTCH PIG IRON

is again rather easier, although (as last week) the shipments compare very favor-ably with those for the same period of last year. It remains to be seen whether the operation of the German duties will check the export of pig iron to that country to any appreciable extent. There are now 268,519 tons in Connal's stores; on June 7, 1878, there were 175,807 tons. The number of Scotch furnaces blowing is 89, as before, and ballast pig remains at 40/ per ton.
Writing from Glasgow, on June 6, James
Watson & Co. said: "The Scotch iron market has been irregular this week, the price having fluctuated between 42/, 41/6 and 42/ per ton, closing this afternoon sellers at the last named figure, buyers one penny per ton The demand for makers' iron continues quiet, and prices are in several in-stances reduced. The shipments last week were 15,434 tons, as compared with 7362 tons for the corresponding week of 1878."

Two thousand miners have struck at Tamworth, England, against a reduction of

### The Semi-Annual Meeting of the ■ National Stove Association.

Proceedings of the Second Day's Session.

Boston, June 18, 1879.

President Rathbone called the meeting to order at 10 o'clock, and named the following gentlemen a committee to secure papers for the annual meeting : G. F. Filley, John S. Perry, Miles Pratt, W. H. Whitehead.

The next business in order was the report of the committee to prepare business, which was called for by the Chair :

Mr. Uriah Hill, Jr.: Mr. Chairman, the time was quite short in which to prepare matter for the meeting, and our enter-taining ride of yesterday rather interrupted action. There was some difficulty in getting our committee together; the whole com-mittee were unable to meet until this morning. The committee have not, therefore, prepared any written report, but they are unanimous in their opinion that we should recommend certain things upon which action should be taken by the association.

The general impression among most of the trade here is that some of our products have been sold too low, and the recom mendation of the committee is that there be a general stiffening up of prices on such goods as have been sold too cheap. Perhaps we might say anything that has been sold less than 5 cents; perhaps that would be about the standard, with, of course, an addition for all extra mountings and trim-mings, and extra expenses.

Again, they would recommend something in the matter of credit; that really is a part of the price of our commodities, and while for coal, iron, screws and every little item entering into the manufacture of our goods we are held strictly to cash, or a limited term of credit—a fixed term of credit—and that quite restricted, it would seem that we ought to think enough of our products to have a limit prescribed for them, that we may not give, as it were, an unlimited credit. I suppose every individual here in the purchase of his coal finds out that it is cash. If they have to buy iron, again it is cash. If they have to buy iron, again it is cash, or a limited term, with interest added; cash, or a limited term, with interest added; and labor, of course, is cash every settling day, so that it will be readily perceived that everything that enters into the production of our goods is cash, or very near it, and we should be very careful to whom we extend unlimited terms of credit. It is thought that four months should be the limit of credit on all bills.

This being the summer meeting, the com-

mittee thought there was nothing further to recommend as business before this meeting, this being the most important topic for con sideration, because we are now upon the edge, as it were—"the ragged edge"—of the business for the coming season. During the coming six or eight weeks every man who finds that he is uncomfortably loaded up with goods will be offering inducements, very likely, to get rid of his goods. I apprehend if he could know all that was to come he would be more careful in his contemplated action.

only throw out these hints that each I only throw out these hints that each may be on his guard, and take the precaution not to sell goods as low as has hitherto been the case; I mean now some of the lower grades of goods—ranges and coeks. You will all recall that last fall prices took quite a tumble; they were not remunerative. Many of our goods were quite profit. Many of our goods were quite profit At the January meeting, at Rochester our friends had not gone over their accountings for the year to ascertain where they stood, and consequently there was no action had at that time as to prices, but very soon after the adjournment of the winter session it became evident to every careful manu-facturer that he had been selling many or his goods too low. Some of our friends, more alive to this than some others, took the initiative of issuing circulars and ing out letters and calling the attention of certain localities to the subject. I think that the trade generally owe a debt of gratitude to those friends who, at the sacrifice of time, health and money, went around and interested themselves in this matter, and awakened thereby a pretty general attention to the fact. I think it has saved thousands of dollars to the trade generally.

In this recommendation, of course, committee are unanimous, and they make the recommendation also in the hope and belief that those who are to take our products and dispose of them will readily see that they are not burdened. There is no combination; there is no exorbitant price put upon these goods. It is simply what we need to keep alive a fair manufacture of goods; so that we can make good goods, and put them in proper shape upon the marketthe goods well made and placed in the re-tailer's hands. As the old adage runs "Goods well made are half sold." Goods well made and put upon the market in good shape are half sold, and the trade will quickly see, I think—they are intelligent people—the necessity of good manufacturers having a fair remuneration for the capital invested in fair remuneration for the capital invested in foundries, patterns, iron, labor and all those things, and that they want a fair remuneration for it, and that they will be willing to give it. It is a very small matter. For instance, a stove of 200 pounds—I will illustrate in brief, and then I shall leave to the members of the association the care of this matter and enlargement upon it, and I hope we shall hear from very many of those present, as all are interested in the matter, is a matter that we may all have thought upon or a word to express that shall be of general benefit to the whole association. As I say, take a stove weighing sociation. As I say, take a stove weigning 200 pounds, and suppose the price on this is squeezed down and we sell it for 4½ cents a pound, there is \$9 for the stove. Now, suppose we make that stove, as the committee recommend, at 5 cents a pound; that is \$10. It is a very slight advance to the consumer. It is a very slight advance to the retailer. It is a very slight advance to the retailer It is a very slight advance, as you see, to the manufacturer, and yet on the thousands and tens of thousands of stoves that are made it is quite an item, and the manufacclose of the year whether he receives the apparently alight advance or whether he throws it away.

Unanimous, I repeat, are the committee in recommending these suggestions to the association, and I trust members here pres-

ent will take up the matter, and give it such discussion and consideration as its impor-tance to the trade seems to demand and

Mr. John S. Perry : Mr. President and gentlemen of the Association, I have ever felt a deep interest in the prosperity of this association. I believe it contains this within itself great power for the good of the trade.

The cultivation of friendship by social intercourse is a strong element in itself. Upon a falling or a stationary market the power a raining or a stationary market the power and influence of this association is, perhaps, not felt in a marked degree; but upon a rising market its power may be made pre-eminent. That we are to have a rising market at no distant day cannot be doubted The sound financial condition of the country, the abundant crops in the past, and in prospect for the future, the large volume of immigration and the reduced amount of manufacture in our trade, all point to this

It has been frequently shown that a fair as ortment of stoves, under average circumstances, cannot be made, at the present cost for material and labor, and sold and the pro ceeds collected, under five cents per pound.

And I make this statement after an experience of thirty-six years, and a great deal of attention given to that particular branch of

the subject.

This statement yet remains uncontradicted. If there is any experienced manufacturer present who has the figures based upon exact statement, who can show a more favorable result, I respectfully call upon him to make it known now and here. I say experienced manufacturer. I place little value upon the opinions of theorists men new to the business, who appear to think that the material and labor comprises the whole cost of stoves, with, perhaps, a small amount added for extras, as estimated. It is this estimated amount that makes all the trouble

In 1843, when I commenced manufactur-ing stoves (and yourself and many other gentlemen present, were engaged in the business at that time), a profit was realized at 234 cents, with iron at \$25. At the present time, with iron at \$18, I believe there is ordinarily no profit at 5 cents a pound.

How is it possible that manufacturers can

go on from year to year selling their products at 3 cents to 5 cents? That it is not possible to continue this without loss, is shown by our depleted ranks, and this pro-cess of depletion I fear will continue, unless a radical change takes place in the present manner of conducting the business. We all desire to get good prices, but as we are too much afraid of each other we fail to realize

make an effort to obtain something at least approximate to their cost. (Applause.)

The President: I trust there will be a

very general expression of opinion in reference to this matter. It is a matter of the very highest importance to the trade. In order to bring the matter properly before the association, what is your pleasure with reference to the report?

Mr. W. H. Tefft: I move it be accepted.

(Carried.) Mr. Geo. H. Phillips: I would ask what onstitutes the difference? Mr. Perry says constitutes the difference? Mr. Ferry says that in 1843 he made a profit at 234 cents, while now it requires 5 to make it up. Then iron was \$25, and now but \$18. Why this difference?

Mr. John S. Perry: In 1843 molding cost \$8 per ton; it now costs \$11 to \$20. I remember very well that one man by the name of John Harrigan, whom very many of you remember, with but a single man to help him—a German, not a mechanic—to whom he paid 6 shillings a day, with simply a hammer in the hand of each, would mount more stoves in one day than could be put upon this floor. There was not a door to be patterns, they were considered of value; they were considered of value as capital. remodeled. At that date we expended perhaps \$2000 or \$3000 a year in patterns and flasks. Now there are firms that expend ooo. And so I might go through the en-list, if I had it in my hand to refer to, and it is a very long list, to show wherein this difference is. The iron, the molding the cost of manufacturing stoves. I state, and state it holding myself responsible for it, that any concern that carries on business it, that any concern that carries on business for five years, taking one year with an-other, and taking all the losses and all the expenses, and all the stealings—that with iron at \$18 a ton, and labor at the present prices, stoves will cost 5 cents a pound. Of course, if the patterns are bought, well and good; and if there are no ground edges and very little nickel work, there will be a triffing difference; but they are sold at less One takes care of the other; if the costs less, it is worth less and sells for stove costs less, it is worth less and sells for less. You put a nickel panel on the door which costs you 50 cents, but you can get, possibly, a dollar more for the stove.

is one item in the cost of stoves wery much astounded to learn the cost at the end of the year. I refer to the cost of discarded plates; that is, that have been bought and paid for and discarded from the racks, or broken in mounting, or damaged

in the many various ways. We keep a daily record, and therefore know what it amounts to. It is something tremendous. What concern is there, doing a business of turer will realize in his balance sheet at the what concern is there, doing a business of 2000 or 3000 or 4000 tons, that does not throw out, at the end of the year, 50 tons of plates that have become obsolete, or some improvement has been made, and it is thought cheaper to throw them out than to mount them in the store, on account of improvement eheaper to throw them out than to mount them in the stove, on account of improvement or mistakes? Now, if you made 4000 tons of castings last year, and have taken up the cost from your books—for there is no other way that I know of to find out the cost of stoves, except, in the first place, to take your inventory of last year—take each item and place it under its appropriate head, and then go through and take the items of money you have actually paid, or agreed to pay, and add to the goods that are inven-toried, and then deduct at the end of the toried, and then deduct at the end of the year the goods that you have inventoried at that time, and the balance is the cost. Take the item of molding. Many people, to ascertain the cost of molding, figure up each plate—what they are paying their men—and say that is the cost of molding. But it is not the cost of molding at all. In my opinion, it is not within \$2 a ton the cost of molding—that is, taking the thing through the year. Take the occasion where some accident occurs, and you do not run off more the year. Take the occasion where some accident occurs, and you do not run off more than half of the "heat," and are obliged to allow your molders for the work lost, and the prices allowed the molders by the foreman, which, perhaps, you never hear of on

man, which, perhaps, you never hear of on the books.

There are a great many ways in which molding costs much additional to what ap-pears upon the surface. Go through, then, all the various items in that way, and if you have made 4000 tons of castings, and it has cost you \$80,000, it is very clear that the molding has cost you \$20 a ton, whatever the account books of the men may show from day to day; and that is a thing that cannot be gainsaid, viz., if you have paid \$80,000 and cast 4000 tons, it has cost you \$20 a ton. If everything is taken up in that way, I think it will be found that the cost is more than we calculate if we calculate merely by estimate. If you have found at the end of the year that your castings have cost you the year that your castings have cost you \$100 a ton, for example, and during the suc-ceeding year you find tons of castings in your rack that are obsolete and undesirable, your rack that are obsolete and undesirable, and you put them into the scrap, and they are worth for iron a cent a pound, if you please, I say there is a dead loss, so far as your books show, of \$80 a ton, and if you have thrown out 50 tons, there is a loss of

I call upon any gentleman present to show that this is not true. It is an item that does not come in and is not shown on the books at all. It is, nevertheless, a loss. In most establishments, too, there is a large item of stealings that also does not appear on the books, and is no insignificant item to those who have watched it. I regret I have not the entire list to refer to; had I, I could go through, in detail, and show the association, them.

Let us try to bring ourselves to believe that stoves really have some value, and to at \$25, they could be sold at a profit of \$2\fm\frac{1}{2}\fm\fra

Mr. Grange Sard, Jr.: Mr. President, the

subject we are now discussing appears to me, as it must to all, to be of the greatest importance. I think one of the reasons why stoves have been sold so low has been because there are the control of the reasons why stoves have been sold so low has been the control of the con why stoves have been sold so low has been because there was such a variety of opinion as to what it cost to make stoves. The more fully that subject can be discussed, the more intelligent will the action of this association be. I regret that that branch of this subject has not oftener heavy discussed in these meetings of the statement of the subject has not oftener heavy discussed in these meetings. been discussed in these meetings. About a year since there appeared in The Metal Worker a discussion of this very subject, in which very careful analyses of cost were made, and I was very much interested in reading them, and regret the subject has not been still further elaborated. There were some very startling statements made in those issues to the effect that below 5 cents a pound there was no profit to the manufaca point there was no profit to the manufac-turer. I regret that some of those parties in our trade who are in the habit of selling goods at less than that price, and who claim they can afford to do so—I regret, I say, that those gentlemen did not answer those upon this floor. There was not a door to be drilled; there were no latches, except what were cast; there was no filing; never was a file put to a plate. They were simply hammered together. At that time there was very little cost for selling goods. We had no travelers, which, you all know, is a very expensive affair. The cost for patterns was very trifling. When a firm had a set of the cost of the co there may be almost as many different views as there are individuals. There is one thing of what value now is a set of patterns, however expensive, as capital? They are good for this year, or next, and perhaps the succeeding year, but soon they are of no succeeding year, but soon they are of no of our business, we find at the end of the year we have not made any money, or perhaps lost haps a trifling amount, or perhaps lost money. I do not think there can be any question when we have reached the end of the year that the reason why we do not make any money is because we sell our goods too cheap. We may run so large a business, and be never so enterprising in our patterns and this difference is. The iron, the molding be never so enterprising in our patterns, and and the mounting is but a small portion of in the manner of doing business and making sales, but except we get more for our goods than the cost to make and sell them, the only and inevitable result that can follow is

So we are brought face to face with this question. If we do not get more for our goods than we obtained last year, we must lose a great deal of money, because it costs more to make goods this year than last year. There are various items of cost which are very decidedly more, and I would refer to one item at this time as being very much more expensive than last year, and I allude now to the nickeling. Since the decision of Judge Blatchford in the matter of the suit of the United Nickel Company, all of us are under tribute to that company, and some manufacturers here will be obliged to that I have observed very few count upon. pay that company for the year upon which In fact, there are very few items taken into account; but one there is that certainly is of the nickel-plating solutions, a great not shown upon the books, and those who deal of money. Various other materials have not kept the records would, I think, be are costing more. We are elaborateNATIONAL

Horse Nail Co.

FINISHED [BRIGHT OR BLUED]

These nails are made of the best brands of NOR.

WAY IRON, and are guaranteed to be equal to

NATIONAL HORSE NAIL CO.,

ANVIL

Horse Shoe & Nail Co.,

Goodenough Horse Shoe Mfg. Co. and

Anvil Nail Co.,

MANUFACTURERS OF

Horse Shoe Nails.

Goodenough Horse Shoes, Caulked

and Plain; Seeley Horse Shoes:

Anvil, Royal Crown, West-

ern and Special Brand

Horse Nails,

Cowles Diamond Pointed Finishing Nails.

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our prices, otherwise we must lose money.

I do not believe that any basis can be agreed upon that shall be arbitrary as to prices; 5 cents a pound may be cheap for some stoves. I do not think it can be dear for any. It is certainly cheap for many. There are some that are a at 6 cents a pound, while others are table at 5 cents. This subject, it profitable at 5 cents. This subject, it seems to me, is one upon which we cannot very intelligently legislate, but it is a subject that appeals to the good sense of every merchant, and especially does it come with force to those who are desirons of doing business in a conservative manner, and to preserve intact the capital they have made years past, and that their name may not

e dishonored.

I trust this subject may receive a very full discussion, and be not only discussed here, but acted upon before we leave this meeting, for it is a vital subject, requiring the influence and co-operation and earnest action of every

and co-operation and earnest action of every member of this association.

Mr. James S. Spear: Mr. President, I do not manufacture stoves, and consequently it does not affect me so much. There are a great many large manufacturers here, and I should be glad to hear from them on one point, and that is, How many bad debts they have made during the last year? (Laughter.) How much money they have lost? Whether their losses don't come in as much in bad How much money they have lost? Whether their losses don't come in as much in bad debts as in the cost of making stoves? That's where it affects me. When I send out a trav-eler and sell on 30 days the trade say: "Oh, we can buy on 4 months, and have it renewed for 4 months more, and if we can't pay in that for 4 months more, and if we can't pay in that time we can have the paper renewed for 4 months more." Well, now, you can all tell what time that is; that's just 12 months. And when I look over the list furnished by the various commercial agencies, I find Ful-ler, Warren & Co., on a claim where a man has failed to the amount of \$30,000 or \$40, 000, in for \$2000 or \$3000. I find S. H ooo, in for \$2000 or \$3000. I find S. H. Ransom & Co. in the same situation, likewise Rathbone, Sard & Co., and so I find quite a number. Now I would like to ascertain their total loss for the year in bad debts; whether a good deal cannot be saved by be

whether a good deal cannot be saved by being more careful as to whom they sell, and whether they can't sell on less time than 4 months and renew it for 4 months longer. I can sell on 30 days' time, and I can get my money, but I get "stuck" freqently by trusting some of these men who are buying on 4 months. I get stuck on the very man who buys on the 1st of January and can buy of the Troy and Albany men—that's the man I lose my money on. If some of these gentlemen can tell how much they lost, it would be very satisfactory to me. (Laughwould be very satisfactory to me. (Laugh-ter.) I might add that I settled with a man ter.) I might add that I settled with the in Massachusetts who had bought some open in each at 30 Franklin stoves from me on cash at 30 days. His excuse for failure to meet his obligation was that he hadn't sold them, and that the weather was warm! He asked for 30 days longer, which I granted him, and at the end of that extension he said he would be unable to settle until the 1st of January. The 1st of January I drew on him, and my draft came back unpaid, and he said he could not pay, and would be obliged to call a meeting of his creditors. I paid no attention to that I threw his letter on the desk, and never answered it. On my birthday, the 17th of February, I received a telegram from him at Jersey City that he would be over to see me. He did come over, and I waited at the store till 4 o'clock, when he came in. I was very sorry indeed to know what his troubles were. I asked him these questions: "What is the difficulty? what trouble have you got into?" "I indorsed a note," he said. Then I asked him: "How long have you been in business?" "Eleven years," he said. "What amount of goods did you sell during that time?" "From \$25.200 to \$25.000 to that time?' me?" "From \$25,000 to \$30,000 a
"What family have you?" "Myself,
ad one child." "What rent do you
"I pay \$1100 for my store." "What year." "What family have you?" "Myself, wife and one child." "What rent do you pay?" "I pay \$1100 for my store." "What are your family expenses?" "\$1100." Come to figure it up he ought to have had \$15,000 or \$16,000 laid up. "Then what is the trouble?" "I indorsed for a brother-\$15,000 the trouble?" "I indorsed the trouble?" "Did you pay?" in-law \$4000 or \$5000." "Did you pay?" No." "Well, sir, I am very sorry for you." We talked along until it was time for him to go home. I said nothing the trouble to the trouble trouble to the trouble trouble." watch, saying, "Are you going to remain in Philadelphia all night?" "No," he replied, "I am going on the half past 6 o'clock train." "Then," said I, "you have just half n hour to get the train. I must go home. Next day I sent to my attorney to investigate his case, for I thought it was a swindle. A letter came back from the corresponding attorney, saying that he had been down to the debtor's place and he did not think he could pay 10 cents on the dollar. He had already offered me 15. He said Fuller, Warren & Co. had settled at 15 cents on the dollar; that he owed them \$700. My bill was \$132. I thought over it a little while. l said, "You are his attorney; I have got hold of the wrong attorney." So I wrote back, "If you will send me a draft on New York for \$100 I will settle the matter, and in no other way; and he is to pay your expenses into the bargain." The next mail brought me \$100. The reat had settled at brought me \$100.

brought me \$100. The rest had settled at 15 cents on the dollar (Laughter).

Mr. Grange Sard, Jr.: I would like to ask, if it is in order, whether the proceedings can be interrupted sufficiently to propose membership; if so, I wish to propose the Smith & Anthony Stove Company. They may very likely wish to take part in the meeting through their representative. I

move they be accepted as members. (Carried.)
Mr. Uriah Hill, Jr.: Right here, Mr. President, I would like to make a sugges-There are a great many good concerns in the country that are not members of this association. I think it would be to their interest to become such. I also think it would be to the interest of the association to have them become such. Just how we shall go to work to interest them in it, I know not and cannot suggest. Our President has quite enough, perhaps, on his shoulders. Perhaps the same may be truthfully said of our Secretary. Just how we shall reach these concerns and interest them in the matter, I can't say. I leave that to some one else. I think it is of great consequence that all the manufacturers of the country should become members of our association. It is all very fine for us to take the initiative in be to the interest of the association to have

expense, and while we "shake the bush," they stand by and catch the bird. That is all very well, but we want their counsel and advice, and we want them to understand these matters as we understand them. If they are members, and meet with us to dis-cuss such matters, they are fully prepared to go home and carry out the measures that are here agreed upon for the general interest. As was remarked a few moments ago we do not expect to bind any body by lock and key to carry out to the fraction every-thing that may be suggested here. As sensible men, when these matters are thrown out that are of interest, it would seem to follow that we could all take them up, act

upon them, and profit by them.

Our friend from Philadelphia (Mr. Spear)
has made a suggestion that interests us all very much, as to how we give credit and how long. I think this matter of fully as much importance as what we get for our goods. It does not matter whether we get 5 or 10 cents for our goods if we put them in parties' hands who will only pay us 15 cents on the dollar for them, or perhaps nothing,

at the end. But I have somewhat wandered from the subject I proposed to bring before the asso-ciation, and that is that all in the trade should be solicited in some way to become members. Before I sit down I will add this: perhaps a letter from our Secretary to the different firms would have the desired effect. I do not know but they are all or his record and can be reached; or perhaps members will interest themselves in it. I certainly will endeaver, if there are any parties in our locality not now members, to send their names to the Secretary, in order that they may be invited.

Will Ma Hill allow that The President: Will Mr. Hill allow that matter to rest until we shall have disposed of the recommendation of the committee?

Mr. I. A. Sheppard: May I ask the Secretary to read the recommendation, if he

The President: There is no motion before the house. I think it would be well if some gentleman would make such a motion. Mr. I. A. Sheppard: Mr. Chairman, I read an anecdote once of a celebrated colored preacher in the South coming down to preach to the darkies, and one of the planters spoke to him beforehand and said that he wished he would preach them a strong, rattling sermon against stealing; he thought that was the great and prevailing sin there. The colored brother pondered a moment and finally said, "Well, boss, I'd like to 'com'date you, but I t'ink if I struck 'em dar, it would throw a ter'ble coldness ober de meetin', and I'd rather take up sin in a de meetin', and I'd rather take up sin in a gin'ral way—stealin', lyin' and other matters." And so when brother Spear struck on the point he did, I was afraid "it would throw a terrible coldness over the meeting." (Laughter.) I think, perhaps, there are none of us here, or any firm rep-resented in the association, but has been doing that very thing that he has been speaking against, to a very damaging ex-tent. It does seem to me, and it has for years seemed to me, to be one of the great-est evils in the trade—the prodigality with which credits have been extended. Mr. Perry has given certain figures, based upon his experience, in regard to the cost of man-ufacturing stoves. Others have taken up that subject. However we may have differed in our experiences in regard to the cost consequent upon the various styles and weight of patterns in different localities. I think that if we will just sum it all up, take the facts as they stand before us—the ex-perience of the last two or three years—that perience of the last two or three years—that we can all agree upon the one point, at all events, that we have not made any money. And if we have not made any money, how are we to make it in the future? Some may say: "By increased business? How are we going to increase the business? Competitive in combane as above in this beauty." tition is perhaps as sharp in this branch of trade as in any other branch of business in the country. People are not going to buy stoves as a matter or ornament or as a matter of fancy. It is an article of utility, and will be only purchased when it is needed. There is not the same chance, I think, in this business to create a demand that there is in many other branches of trade; hence I do not see where we are to get the increased demand or the enlarged market. Then, if that be true, and we have made no money in the last two or three years at the prices at which we have been selling, and while while admitting that we have profited, as I think we all have to some extent, by our experience in giving credits—for Mr. Spear, and Fuller, Warren & Co., and other gentlemen are not alone, I guess, in that regard as to losses on their bills—I do not think there is one among us here that would like to say:
"I have made none," and throw a stone at
the others; and if that be true, and there is no enlarged market by which our trade is to be increased, if we are narrowed down to about the sawe localities and require ments of the parties, how are we to make as cheaply. Mr. Perry has named \$18 as the price of the iron. That figure, in my the price of the iron. That figure, in my judgment, take the average of the year, unless gentlemen have got their stocks bought for the year's supply, I think is too low. Take it at \$18; if I buy iron and deliver it at the nearest railroad station to the foundry at \$18, that is not the cost of the iron. It has to be hauled into the yard. It has to be handled, and it costs something. There are many making stoves to day who can't get their iron at \$18. I say I think that figure is low. I see no other way to make a

profit out of the business but to get some

advance in prices. I am very free to say.

and I have no doubt Mr. Perry will admi

figure is low.

I see no other way to make a

increase, and we must add these things to all these matters and be at the trouble and | way it is done. But the incidental exper connected with the business must be placed somewhere, and it is a very large amount. There are certain expenses, as we all know, incidental to the business. If you run your foundry only nine or ten months, there are certain incidental expenses connected with it that you cannot get rid of. If you have capacity for 100 molders and lie idle two months and run ten, and instead of running 100 you run 50 or 60 molders, your proportionate expense of making the goods is considerably more than if you were running the 100 molders. Take it as it is, and as we find it, it seems to me, throwing theories on nnected with the business must be placed find it, it seems to me, throwing theories on one side and taking the experience of the past, that we must endeavor to get some advance upon the goods we manufacture for the coming year, if we are to derive any profit or pay for our labor in conducting

> Mr. Jas. S. Spear : And less losses. Mr. I. A. Sheppard: Well, I'm with you all the while on that. Last September I issued a circular making a sliding scale of discounts, making it 10 per cent. off for cash on the receipt of the goods; 8 per cent. cash on the receipt of the goods; 5 per cent.
> off if paid when the statement was rendered
> at 30 days; 4 per cent off at 90 days, and no
> credit beyond 4 months. It is the best move
> I ever made since I have been in business; it has paid me better than any circular I ever

put out.
Mr. John S. Perry: It seems to me that the condition of the trade is very much as it was in 1872 when this associa-tion was formed. It has one advantage, and that is the members of the trade are upon more friendly terms with each other, and they are better acquainted with one another than they were at that time. We another than they were at that time. We have not, perhaps, advanced quite so far in the increase of prices, or the general advance in goods, as at that time. But then there was an upward tendency. There is an upward tendency now. That is the universal opinion. You are all aware what benefits resulted from the association at that ints resulted from the association at that time, during the early years. And why they were not continued was because the prices were falling rather than advancing. Now, we are very much in the condition that we were at that time, and I do feel very strongly that now is the time for the esseciation to make a strangers systematic. very strongly that now is the time for the association to make a strenuous, systematic effort in getting the trade into its membership, and insisting upon advanced prices. We, of course, cannot lay down any arbitrary prices that we will not sell below. That is impossible. But I think this association should pass a resolution recommending that no stoves be sold at less than 5 cents a pound for the castings, and with the cost of the mountings the rods, the screws, the of the mountings, the rods, the screws, the knobs, the nickel plates and the various other things added, and 25 per cent added to such Although we may not always be able to get it, yet if we pass such a resolution and make the effort, it will be paving the way to something better next year. I move

that as a resolution.

The President: Will Mr. Perry reduce it

to writing?

Mr. John S. Perry: I move that it is the sense of this meeting that it be recom-mended to the trade that no stoves be sold under 5 cents a pound for the castings, the cost of mountings added—not the labor of mounting, but the material—and 25 per cent. added to such cost of material. I will state that on a general assortment of stover the cost of the material and 25 per cent.

added is about \$15 a ton.

The Secretary put the resolution in form as follows :

It is the sense of this meeting that it be recom-mended to the trade that no stoves be sold under 5 cents per pound for the castings, with the cost of the extras added, and that 25 per cent be added to the cost of material.

The President: Is that your motion ? Mr. John S. Perry: Yes. Perhaps it would not be advisable to have it printed at 25 per cent. advance, but that is my idea. The cost of extras to be added, with a reasonable

profit, I will say.

The resolution being seconded,
Mr. William H. Tefft said: Before that resolution is put, Mr. President, I would like to say, in regard to the recommendation was made as to prices, that in the West, during the past winter, it seems to have worked very well. I think there is a general feeling in the West to adhere to those prices as near as may be, and those prices were a little at variance with that resolution. There are some leading stoves that were compromised out in Chicago and that section on a basis of a little less that 5 cents, and whatever the resolution may be, I think they will be sold at that. But if that resolution could be adopted and adhered to,
I for one should be very glad to support it.
A basis of 5 cents a pound is full low enough
to sell any kind of stoves at, and from that up. There are very few stoves ac, and from that up. There are very few stoves except very common box stoves, or something of that kind, that are not known down this way, that are sold below those prices.

Col. W. P. Warren: Mr. President, I hold

in my hand a resolution that I had written previous to that just offered by Mr. Perry, and with all due deference to his resolution, I must suggest it strikes me as a little arbi-trary. Our mission is rather to recommend dictate

Mr. John S. Perry: Excuse me, my mo mending tion was merely recommending.

The Secretary, by request, again read Mr.

Perry's resolution.
Col. W. P. Warren: I accept the amendment proposed. There is another fact that enters into this case just at this time of the year, Mr. President, and that is the price of eating stoves, or those commonly known as "base-burning" stoves, and I did hope to hear something said upon that point. It occurs to me that 5 cents a pound is entirely too low to put upon them as a minimum price, with extras added.

Mr. John S. Perry: I intended the motion Mr. John S. Perry: I intended the motion to refer to the cheapest class of stoyes." No one, of course, will think of selling base-burners at 5 cents a pound. Perpaps it would be well enough to say "5 cents and

Mr. George H. Barbour: One thing, President, has been lost sight of, I think. At the meeting at Cleveland it was referred

pound, and we agreed at that meeting that those patterns that had not been changed for a certain number of years could be sold as low as 4 cents a pound. That be sold as low as 4 cents a pound. That was agreed upon at the suggestion of some parties from Salem, I think. Mr. Myers, of Cleveland, will remember the conversation. They were, of course, inferior stoves, I have in my pocket a cut of a new pattern of stove made in Pennsylvania. I will not give the name of the firm. The stove weighs 200 pounds, 18-inch oven, modern, nickel plated the limited does selling at \$6.000 per college. 200 pounds, 18-inch oven, modern, meach plated, tin-lined door, selling at \$9, 20 per cent. discount, and 5 off for cash. That is less than 3½ cents per pound. That stove is in the market to-day in Michigan, and will, no doubt, meet a good sale. We have will, no doubt, meet a good sale. We have a stove at \$17, and the basis of discount is 10 per cent. The same stove is sold for \$13.50 and landed at Kansas City, or any part of the West. There is another leading concern that is furnishing good stoves, nickel-plated and modern style, that are fully 5 cents a pound. They don't belong to this association, and I wish something could be brought to bear to bring them into the association ; but I do not think they can be brought into it. Now, they propose to sel those stoves and secure the trade if they can, and they are meeting with very good success. They readily sell their stoves at \$19 to \$20 if they can't get more. That makes the basis of 5 cents a pound very un-

opular in some sections.

We do not propose to sell below 5 cents a sound, and we intend to get more for our goods if we can, as we have never been considered a house that favored low prices. At the same time, these things come in and make

t very unpleasant, to say the least.

Mr. Jas. S. Spear: How many manufacurers are making that kind of stove—the one that is sold so cheap?

Mr. G. H. Barbour: I have only heard of

ne. That's sufficient.
Mr. Jas. S. Spear : Can't you let him go

on?

Mr. G. H. Barbour: We shall have to.

Mr. Jas. S. Spear: I will tell you my experience, as I seem to be considered as having been quite successful in business. I started in business in 1856. I took account of stock on the 1st of February, after being in business for seven months. I found I had of stock on the 1st of February, after being in business for seven months. I found I had made \$3000. I went on, thinking I had done a very good thing, because I had just stepped out of a salary of \$1000, and here I had made \$3000 in about eight months—from the 16th of July to the 1st of February. I was very much elated. I was going to do still better the next year. At the end of the year I took stock once more, and to my utter surprise I had lost \$800 and my year's labor. It was during the panic of year's labor. It was during the panic of 1857, and the Life and Trust Co. of Cincin-1857, and the Life and Trust Co. of Cincinnati had gone up, the Bank of Pennsylvania had failed, and everything "gone to pot" at that time, and I was left with a good deal of stock on hand and could not pay my bills. Most of them were parlor stoves. I had virtually failed. Mr. Ransom will probably recollect it. I had bought of him stock to the amount of perhaps a couple of what can you do?" "I can give you the stock I have our hand." "We don't want that." I said to McDowell, to whom I owed \$500, that I could not pay, but would give up the goods. No, they didn't want them. "Well, Jimmie, what can you do?" "I will do the best I can for you?" "Well, do so." "Well, Jimmie, what can you do?" "I will do the best I can for you." "Well, do so." I sent word to Ransom that I couldn't pay him. He wanted to know when I could pay. I said next November I could pay him. He sent me a note to sign, which I did, and I paid him on the 1st of October, dollar for dollar, with interest. I took account of stock, and found I was selling the old three-step stove called the "Complete" for \$12.50 that cost \$10.50, 10 per cent. off. I figured up on that stove what it cost to figured up on that stove what it cost to put the wash-boiler on, the tea kettle, pot-covers, &c., &c., and I found it had cost me covers, &c., &c., and I found it had cost me \$15, and I had been selling it for \$12.50. The whole trade was selling at the same. I had sold 350 of these stoves. I went on to figure up on my stove pipe, bricks, grates and odd sets, and I made a profit on all of them. On the parlor stove, sold at \$16, we made a dollar. On the cook I concluded I had lost

we will let it go for what it cost us—\$15."
That year I sold 75 stoves; the next year,
50; the next, 25; and the next year the
stove was out, and I never sold another one. I had the backbone to stand up against all the trade on the street, and put that stove up at \$16 against \$12.50. That is what up at \$16 against \$12.50. That is what gentlemen here to-day need—a stiffening up of backbone to what they recommend.

All around me have failed. Not a single All around me have failed. Not a single man on the street but has failed, except John S. Clarke, and Mr. Sheppard can tes-tify to that fact. Every one of them has failed since 1857 on that cheap basis of

dollar. On the cook I concluded I had less my money. The next day the price of that stove was \$16. Our trade was principally Irish trade. They would ask the price. "Sixteen dollars." "Oh, now, come, come,

we can get that stove below here at \$12.50.

"What's the price of that stove?" "Six-teen dollars." "Is that the very best you can do?" "Well, as you are an old customer,

would come in and ask

erican lady

Mr. Grange Sard. Jr. : It seems to me we have not acted on the resolution that has been seconded.

The President: Mr. Perry's resolution was seconded. Do you offer anything as an amendment ! Mr. Grange Sard, Jr.: I offer the follow

Resolved. That it is the sense of this meeting that, unless stoves of the lowest grades are sold above 5 cents per pound, with an additiona charge for all extras such as nickel, mica, reservoir, &c., there can be no profit to the manufac

I don't know but what Mr. Perry's reso lution, if it is amended by adding "of the lowest grades," or something of that kind, will cover the point the same as this

The Secretary again read Mr. Perry's resolution, and Mr. Sard moved to amend by inserting "stoves of the lowest grade," which amendment was accepted by Mr. Perry.

tion came up as to whether the trade should be profitable or unprofitable, and whether we should get better prices than we had been we should get better prices than we had been getting, these very objections presented themselves. Some of the oldest members of the trade said, "We can't do that, because Messrs. So-and-so will not join our association, and they insist upon selling goods lower than they ought to be sold for." If we had stopped just then and suffered our fears to control us, I am very confident that at least one million of dollars which has been secured by the members of this has been secured by the members of this association in the way of profit, by virtue of the fact that the association has been formed, would not have been realized. It seems to me that it is not wise for us, because the nay be here and there a manufacturer not belonging to our association who is so un-wise as to sell his goods for less than they cost him, to hesitate in recommending to the trade prices that will pay us an exceedingly

will pay us an exceedingly small compensation.

What is your pleasure in regard to the resolution? Are you ready for the question?

Cries of "Question!" "Question!" The resolution as amended was then

lopted, as follows: It is the sense of this meeting that it be recom-mended to the trade that no stoves be sold under sometis per pound for the eastings, even for the lowest grades, and that the cost of extras be added with a reasonable profit to above price of 5 cents per pound.

Mr. Matt. Ellis: Mr. President, the Mayor of Boston is present in the building; may I have the pleasure of presenting him to the association?
The President: We shall be very much

pleased to see him.

Mayor Prince, of Boston, then entered, and was greeted with hearty applause, and the President announced a recess of five minutes in order to enable members to be presented to his Honor. Proceedings being resumed, Mr. G. A. Barbour offered the following resolution:

That the thanks of this convention be ten to the stove men of Boston in general, at those who have rendered their assistance in ing this meeting of our stove convention so ant; to the members of the press, and oppoperty clerks and all attaches of the Brunswick. (Adopted).

The President: What is the further pleas

ure of the association?

Mr. U. Hill, Jr.: Some of us are so connected with the matter of credits, that perhaps I may be pardoned if I make a suggestion or so touching that subject. I do not remember that any resolution has yet been offered in regard to it.

The President: There has not, Sir.

Mr. U. Hill, Jr.: This is a very important matter, I think, because as you see it has a great deal to do with our prices. It is of no days or 12 months, provided we never get our pay. Many of the coal and iron men are scrutinizing their credits. I find, at this time my bills. Most of them were parlor stoves. I had virtually failed. Mr. Ransom will probably recollect it. I had bought of him stock to the amount of perhaps a couple of hundred stoves, and I was virtually a broken merchant. I went to North, Chase & North, and said to them, "I can't pay you."

"What can you do?" "Lan't pay you."

scrutinizing their credits, I find, at this time very closely; and so closely do they pursue their care that if they find a man is reck-lessly fooling away his goods, and selling them at cost or less than cost, they conclude they will take the benefit of any doubt there may be in the matter, and they will not give him any credit, because them. they will take the benefit of any doubt there may be in the matter, and they will not give him any credit, because they fear if he is feoling away his property in that way he may have nothing left to pay them. This is a very important feature.

Again, in selling goods to people we have to take the chances of their lives, of thefts and burglaries—I mean thefts of their employees, and burglary from outside. It

and burglaries—I mean thefts of their employees, and burglary from outside. It strikes me these are risks enough, as a general thing, to be taken by the trade. I think we should put upon our circulars a reminder to every man dealing in our goods that he should be insured, so that he should not take the chances of such loss. We should, I think, put upon our bills and circulars that he should do what he could to protect us, so far as he can, from things beyond his control.

as he can, from things beyond his control. If we sell our goods on time at all, we should limit the time. I know no reason why we should not do that in stoves as well as in everything else. I do not know why stoves in averything eise. I do not know why stoves have not as good a place and fair standing in the market as dry goods, as iron, as coal, and all those items of trade which, when purchased or sold, have a definite time extended. And what is more, at the end of the month, or with the bill, statements are given for small purchases, for \$5, \$10, \$15, and in the month they run up to a \$100 or so. If there is to be a credit beyond the month, let it be understood that there is a note to be given in settlement; that there is to be no further controversy about the mattor. If there is any reduction, or rebate anything of the kind, let it come up and let it be settled there and then, and close the month by a note. Some make it a practice now of sending a note with the invoi questing that after the goods have been received, and the corrections made, the note be signed and returned to consignor. That makes a settlement of every bill, and per-haps when they are of any magnitude it may be very well; but for dealers who do not care to go into it, I think it would be well to adopt the other method. I think this is a very important matter, because we can't buy—I don't know whether the rest are in good enough credit to buy otherwise—without giving a note or check for our purchases. The President: Do you make any motion, Mr. Hill ?

Mr. U. Hill, Jr. : I don't know but what I would move to this effect: That it be re-commended to the association that a more uniform rule of credit be adopted, and that it be livited to four months. Now that is it be limited to four months. Now, that is open and explicit, and if it does not meet with the approbation of the meeting it may be modified and amended; only have a limit to it, and I will acquiesce in it. Hill's motion was seconded and

adopted. Gen. Rathbone here introduced Mayor Prince, who made a neat and appropriate speech, to which Gen. Rathbone responded

gracefully.
The President: What is the further plea ure of the association?
Mr. R. P. Meyers: Mr. President, I came

here a long distance to attend this convention; not brethern. not so far, however, as some of my ern. But one consideration of my coming was this subject of prices. A resolution has been adopted, but I am quite fearto. Some manufacturers in Ohio had some inferior patterns—patterns that they were Barbour referred to. The older members of running right along in the sand—that this association will remember that, when they wanted to self below 5 cents a this association was organized and the questional remember that the remember that the remember that the remember that there will not be a constant of the remember that t

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Harduap Van L. Bartington, Coan.    Hardwap Commission M Herburgs.	Kneeland F. L. (Dupont) 70 Wali, N. Y	Quincy J. W., 98 William, N. Y
Bordware Commission Merchages.  Heaton & Denetha sy Commerce, Phila.  Heaton & Denetha sy Commerce, Phila.  Hundley & Hanke, spieade, N. Y.  Tomain & Wilson, as Beckman, N. Y.  Wathridge U. B., rot Chambers, N. Y.  Though & Spiede & Watton, 65; Market, Phila.  Hoody, Supplee & Watton, 65; Market, Phila.  Hoody, Supplee & Watton, 65; Market, Phila.  Hardware Banker, Spieade, N. Y.  Hardware Banker, Reade, N. Y.  Coulter, Finder & Co., & Chamber, N. Y.  American Mg. Co., ray Paul, Philadelphia, P. A.  Mardware Manufacturer, R. Y.  American Mg. Co., ray Paul, Philadelphia, P. A.  Hardware Mg. Co., Hoody Philadelphia, P. A.  Holley Spiece & Watton, 65; Market, Phila.  Hoody, Supplee & Watton, 65; Market, Phila.  Hoody, Supplee & Watton, 65; Market, Phila.  Hord, Co., Philase Watton, 65; Market, Phila.  Hord, Supplee & Watton, 65; Market, Phila.  Hord, Co., Philase Philadelphia, Philadelphi	Handles. Makers of. Hartigan Wm. R., Burlington, Conn	Ironelad Manufacturing Co., Brooklyn, N. V.
Charles Mica & Porcelain Co., 67 Liberty, N. Y.  Tennis & Wilhos. & Beckman, N. Y.  Walbridge O, B., vor Chambers, N. Y.  Shepard Stiney & Co., Buffalo, N. Y.  Shepard Stiney & Co., Buffalo, N. Y.  Hardware Mig. Co., 470 Paul, Philadelphia.  And Hardware Mig. Co., 470 Paul, Philadelphia.  Coulter, Fineier & Co., 50 Chambers, N. Y.  Hiller's gallo Co., 7 Chambers, N. Y.  Hiller's gallo Co., 7 Chambers, N. Y.  Stanley Works, New Pirtials, Conn.  Stanley Works, New Pirtials, Conn.  Shepard Hardware Co., Buffalo, N. Y.  Stanley Works, New Pirtials, Conn.  Shepard Hardware Co., Buffalo, N. Y.  Stanley Works, New Pirtials, Conn.  Shepard Hardware Co., 150 Chambers, N. Y.  Yan Waroner & Williams, & Deckman, N. Y.  Shepard Sidney & Co., 9 Chambers, N. Y.  Yan Waroner & Williams, & Deckman, N. Y.  Shepard Sidney & Co., 9 Chambers, N. Y.  Shepard Sidney & Co., 9 Chambers, N. Y.  Shadily Works, New Pirtials, Conn.  Shepard Hardware Co., 150 Chambers, N. Y.  Shadily Works, New Pirtials, Conn.  Shepard Hardware Co., 150 Chambers, N. Y.  Shadily Works, New Pirtials, Conn.  Shepard Sidney & Co., 150 Chambers, N. Y.  Shadily Works, New Pirtials, Conn.  Shepard Sid	Graham & Haines and Chamber Nants.	Metallurgists.  Booth, Garrett & Blair, 919 Chant, Philadelphia 5 Britton J. Blodgett, 70 Walnut, Philadelphia 5
Siepard Sidney & Co., Burfalo, N. Y.  Stepard Sidney & Co., 1975 Paul, N. Y.  Stepard Sidney & Co., 1975 Paul, N. Y.  American Spiral Spiring Butt Co., 82 Beekman, N. Y.  Cowles Hardware Co., Union, Philadelphia, N. Y.  Day, Farrington & Co., 295 3d ave., N. Y.  Hardware Co., 1975 Paul, N. Y.  Sarrington & Co., 295 3d ave., N. Y.  Haller's raile Co., 1976 Paul, N. Y.  Siller's raile Co., 1976 Paul, N. Y.  Siller's raile Co., 20 Charbers, N. Y.  Siller's raile Co., 20 Charbers, N. Y.  Shannon J. B. & Sons, 100 Market, Phila.  Shepard Hardware Co., Burdalo, N. Y.  Shannon J. B. & Sons, 100 Market, Phila.  Shepard Hardware Co., Burdalo, N. Y.  Shannon J. B. & Sons, 100 Market, Phila.  Shepard Hardware Co., Burdalo, N. Y.  Shannon J. B. & Sons, 100 Market, Phila.  Shepard Hardware Co., Burdalo, N. Y.  Shannon J. B. & Sons, 100 Market, Phila.  Shepard Hardware Co., Burdalo, N. Y.  Shannon J. B. & Sons, 100 Market, Phila.  Shepard Hardware Co., Burdalo, N. Y.  Shannon J. B. & Sons, 100 Market, Phila.  Shepard Hardware Co., Burdalo, N. Y.  Shannon J. B. & Sons, 100 Market, Phila.  Shepard Hardware Co., Burdalo, N. Y.  Shannon J. B. & Sons, 100 Market, Phila.  Shepard Hardware Co., Burdalo, N. Y.  Shannon J. B. & Sons, 100 Market, Phila.  Shepard Hardware Co., Burdalo, N. Y.  Shannon J. B. & Sons, 100 Market, Phila.  Shepard Hardware Co., Burdalo, N. Y.  Shannon J. B. & Sons, 100 Market, Phila.  Shepard Hardware Co., Burdalo, N. Y.  Shannon J. B. & Sons, 100 Market, Phila.  Shepard Hardware Co., Burdalo, N. Y.  Shannon J. B. & Sons, 100 Market, Phila.  Shepard Hardware Co., Burdalo, N. Y.  Shannon J. B. & Sons, 100 Market, Phila.  Shepard Hardware Co., Burdalo, N. Y.  Shannon J. B. & Sons, 100 Market, Phila.  Shepard Hardware Co., Burdalo, N. Y.  Shannon J. Shannon J. Shannon J. Shannon J. Shann	Heaton & Denckia, 507 Commerce, Phisa	Chester Mica & Porcelain Co., 87 Liberty, N. Y25
Mokey & Co., 13 and 13 p Duane, N. Y. Windmuller Louis & Roolker, 20 leade, N. Y. American Spiral Spring Butt Co., 82 Beckman, N. Y. American Spiral Spring Butt Co., 82 Beckman, N. Y. Spay, Farrington & Co., 202 of ave., N. Y. Barterorise Rig. Co., 202 of ave., N. Y. Barterorise Rig	renns & Wilson, 52 Beckman, N. Y	Mill Gearing. Poole & Hunt, Baltimore
Hiseral Wool, Hardware Cap Faul, Philadelphia. American Mg. Oo. 479 Faul, Philadelphia. All Consenses of Conse	Aloyd, Supplies & Waiton, 625 Market, Phila	Philadelphia Novelty Mfg. Co., 821 Cherry, Phila 9 Miners' Candles, Makers of. Lames Boyd's Sons and a Prophile
American Mg. Co., 279 Faul, Philadelphia, Marrian John 1912 Spring Butt Co., 82 Bekman, N. Y. St. Owvier Hardware Co. Unionviller, N. Y. St. Owvier Hardware Co. Hardware Co., 19 Chambers, N. Y. St. Owvier Hardware Co., Buffalo, N. Y. Stanley Works, New Britain, Com. St. Washington, N. Y. Stanley Works, New Britain, Com. St. Washington, N. Y. Stanley Works, New Britain, Com. St. Washington, N. Y. Stanley Works, New Britain, Com. St. Washington, N. Y. Stanley Works, New Britain, Com. St. Washington, N. Y. Stanley Works, New Britain, Com. St. Washington, N. Y. Stanley Works, New Britain, Com. St. Washington, N. Y. Stanley Works, New Britain, Com. St. Washington, N. Y. Stanley Works, New Britain, Com. St. Washington, N. Y. Stanley Works, New Britain, Com. St. Washington, N. Y. Stanley Works, New Britain, Com. St. Washington, N. Y. Stanley Works, New Britain, Com. St. Washington, N. Y. Stanley Works, New Britain, Com. St. Washington, N. Y. Stanley Works, New Britain, Com. St. Washington, N. Y. Stanley Works, New Britain, Com. St. Washington, N. Y. Stanley Works, New Britain, Com. St. Stanley Works, New Britain, Com.	McCoy & Co., 134 and 130 Duane, N. Y	Mineral Wool. Elbers Alexander D., 261/2 Broadway, N. Y
Enterprise Mig. Co., Phila. Loyd, Supples & Waiton, os. Market St., Phila., Pa. II. Hiller's rails Co., 42 Chambers, N. Y. Shannon J. B. & Sons, too Market, Phila. Shannon J. B. & Sons, too Market, Philadelphia. Harress Snaph. Shannon J. B. & Sons, too Market, Philadelphia. Harress Snaph. Shannon J. B. & Sons, too Market, Philadelphia. Harress Snaph. Shannon J. B. & Sons, too Market, Philadelphia. Harress Snaph. Shannon J. B. & Sons, too Market, Philadelphia. Harress Snaph. Shannon J. B. & Sons, too Market, Philadelphia. Harrington Rdwin & Son, Philadelphia. Harrington Rdwin &	American Mfg. Co., 4739 Paul, Philadelphia	Molding Sand.
Lidoyd, Supplee & Walton, os, Market St., Phila, Pa. It Hiller's rails Co., 2(Chambers, N. Y. 1978). The Walton of the Co., 1978 W. Jackson, Chicago. Thila, Novelly Mf. Co., Li, Cherry, Phila. 90 Scott R. P. & Co., Newark, N. J. O'R. Scott R. P. & Co., Newark, N. J. O'R. Scott R. P. & Co., Newark, N. J. O'R. Scott R. P. & Co., Newark, N. J. O'R. Scott R. P. & Co., Newark, N. J. O'R. Scott R. P. & Co., Newark, N. J. O'R. Scott R. P. & Co., Newark, N. J. O'R. Scott R. P. & Co., Newark, N. J. O'R. Scott R. P. & Co., Newark, N. J. O'R. Scott R. P. & Co., Newark, N. J. O'R. Scott R. P. & Co., Newark, N. J. O'R. Scott R. P. & Co., Newark, N. J. O'R. Scott R. P. & Co., Newark, N. J. O'R. Scott R. P. & Co., Newark, N. J. O'R. Scott R. P. & Co., Newark, N. J. O'R. Scott R. P. & Co., Newark, N. J. O'R. Scott R. Scott R. O'R. O'R. O'R. Scott R. O'R. O'R. O'R. O'R. O'R. O'R. O'R. O	Cowles Hardware Co., Unionville, Conn. 38 Day, Farrington & Co., 295 3d ave., N. Y. 24 Enterprise Mfg. Co., Phila.	Dietz R. E., 54 and 56 Futton, N. Y
American macrites Co., 103 S. 46. Philas. 5 shepare's dimp's & Co., 104 Marko, N. Y. 27 Harrness Sangs. Covert Mg. Co., West Troy, N. Y. Harrness Sangs. Covert Mg. Co., West Troy, N. Y. Hay K nives. Hot Hiram & Co., East Wilton, Me. 33 Lowis, Oliver & Phillips. Pittaburgh. Pa. 6 Lowis, Oliver & Phillips. Pittaburgh. Pa. 6 Hot Hiram & Co., East Wilton, Me. 33 Lowis, Oliver & Phillips. Pittaburgh. Pa. 6 Hot Hiram & Co., Cheston, Decatur, Ill. 27 Hot Hiram & Co., Chicago, Ill. 9685 Hor Ringers. Polyal A. Co., Chicago, Ill. 9685 Hor Ringers. Staniey Works, New Britalin, Conn. 8 Horse Ringers. Polyal Co., Chicago, Ill. 9685 Hor Ringers. Forten & Co., Pittaburgh. Pa. 35 Horise Machiness. Forten & Co., Pittaburgh. Pa. 35 Horse Clippers. Hor Ringers of Mallet Works, 466 E. Houston. 31 Horse Clippers. Boker, Hermann & Co., tot & tot puane, N. Y. 33 Horse Clippers. Boker, Hermann & Co., tot & tot puane, N. Y. 35 Horse Nall Co., Vagreen, N. Y. 35 Rarnaed Horse Nall Co., Vagreen, N. Y. 35 Rarnaed Horse Nall Co., Plattaburgh, Pa. 39 Horse Shoes, Maters of, Barclay, N. Y. 31 Horse Shoes, Maters of, Barclay, N. Y. 34 Horse Shoes, Maters of, Barclay, N. Y. 34 Horse Shoes, Maters of, Barclay, N. Y. 34 Horse Carlin, Macking Co., Chambers, N. Y. 35 Horse Carlin, Macking Co., Vagreen, N. Y. 35 Horse Carlin, Macking Co., Vagreen, N. Y. 35 Horse Carlin, Macking Co., Vagreen, N. Y. 35 Horse Shoes, Maters of, Barclay, N. Y. 34 Horse Shoes, Maters of, Barclay, N. Y. 34 Horse Carlin, Macking Co., Vagreen, N. Y. 35 Horse Shoes, Maters of, Barclay, N. Y. 35 Horse Carlin, Macking Co., Vagreen, N. Y. 35 Horse Carlin, Macking Co., Vagreen, N. Y. 35 Horse Shoes, Maters of, Barclay, N. Y. 36 Horse Carlin, Macking Co., Vagreen, N. Y. 35 Horse Shoes, Mackers of, Barclay, N. Y. 36 Horse Carlin, Macking Co., Philadelphia, Pa. 35 Horse Carlin, Macking Co., Philadelphia, P	Lloyd, Supplee & Walton, 025 Market St., Phila., Pa.21 Mattby, Curtiss & Co. 24 Reade, N. Y. 12 Miller's Falls Co., 74 Chambers, N. Y.	Nails. Oxford Iron Co., 81 Washington, N. Y
American macrites Co., 103 S. 46. Philas. 5 shepare's dimp's & Co., 104 Marko, N. Y. 27 Harrness Sangs. Covert Mg. Co., West Troy, N. Y. Harrness Sangs. Covert Mg. Co., West Troy, N. Y. Hay K nives. Hot Hiram & Co., East Wilton, Me. 33 Lowis, Oliver & Phillips. Pittaburgh. Pa. 6 Lowis, Oliver & Phillips. Pittaburgh. Pa. 6 Hot Hiram & Co., East Wilton, Me. 33 Lowis, Oliver & Phillips. Pittaburgh. Pa. 6 Hot Hiram & Co., Cheston, Decatur, Ill. 27 Hot Hiram & Co., Chicago, Ill. 9685 Hor Ringers. Polyal A. Co., Chicago, Ill. 9685 Hor Ringers. Staniey Works, New Britalin, Conn. 8 Horse Ringers. Polyal Co., Chicago, Ill. 9685 Hor Ringers. Forten & Co., Pittaburgh. Pa. 35 Horise Machiness. Forten & Co., Pittaburgh. Pa. 35 Horse Clippers. Hor Ringers of Mallet Works, 466 E. Houston. 31 Horse Clippers. Boker, Hermann & Co., tot & tot puane, N. Y. 33 Horse Clippers. Boker, Hermann & Co., tot & tot puane, N. Y. 35 Horse Nall Co., Vagreen, N. Y. 35 Rarnaed Horse Nall Co., Vagreen, N. Y. 35 Rarnaed Horse Nall Co., Plattaburgh, Pa. 39 Horse Shoes, Maters of, Barclay, N. Y. 31 Horse Shoes, Maters of, Barclay, N. Y. 34 Horse Shoes, Maters of, Barclay, N. Y. 34 Horse Shoes, Maters of, Barclay, N. Y. 34 Horse Carlin, Macking Co., Chambers, N. Y. 35 Horse Carlin, Macking Co., Vagreen, N. Y. 35 Horse Carlin, Macking Co., Vagreen, N. Y. 35 Horse Carlin, Macking Co., Vagreen, N. Y. 35 Horse Shoes, Maters of, Barclay, N. Y. 34 Horse Shoes, Maters of, Barclay, N. Y. 34 Horse Carlin, Macking Co., Vagreen, N. Y. 35 Horse Shoes, Maters of, Barclay, N. Y. 35 Horse Carlin, Macking Co., Vagreen, N. Y. 35 Horse Carlin, Macking Co., Vagreen, N. Y. 35 Horse Shoes, Maters of, Barclay, N. Y. 36 Horse Carlin, Macking Co., Vagreen, N. Y. 35 Horse Shoes, Mackers of, Barclay, N. Y. 36 Horse Carlin, Macking Co., Philadelphia, Pa. 35 Horse Carlin, Macking Co., Philadelphia, P	Payson & Co., 1219 W. Jackson, Chicago	Schoenberger & Co., Pittsburgh, Pa
American macrites Co., 103 S. 46. Philas. 5 shepare's dimp's & Co., 104 Marko, N. Y. 27 Harrness Sangs. Covert Mg. Co., West Troy, N. Y. Harrness Sangs. Covert Mg. Co., West Troy, N. Y. Hay K nives. Hot Hiram & Co., East Wilton, Me. 33 Lowis, Oliver & Phillips. Pittaburgh. Pa. 6 Lowis, Oliver & Phillips. Pittaburgh. Pa. 6 Hot Hiram & Co., East Wilton, Me. 33 Lowis, Oliver & Phillips. Pittaburgh. Pa. 6 Hot Hiram & Co., Cheston, Decatur, Ill. 27 Hot Hiram & Co., Chicago, Ill. 9685 Hor Ringers. Polyal A. Co., Chicago, Ill. 9685 Hor Ringers. Staniey Works, New Britalin, Conn. 8 Horse Ringers. Polyal Co., Chicago, Ill. 9685 Hor Ringers. Forten & Co., Pittaburgh. Pa. 35 Horise Machiness. Forten & Co., Pittaburgh. Pa. 35 Horse Clippers. Hor Ringers of Mallet Works, 466 E. Houston. 31 Horse Clippers. Boker, Hermann & Co., tot & tot puane, N. Y. 33 Horse Clippers. Boker, Hermann & Co., tot & tot puane, N. Y. 35 Horse Nall Co., Vagreen, N. Y. 35 Rarnaed Horse Nall Co., Vagreen, N. Y. 35 Rarnaed Horse Nall Co., Plattaburgh, Pa. 39 Horse Shoes, Maters of, Barclay, N. Y. 31 Horse Shoes, Maters of, Barclay, N. Y. 34 Horse Shoes, Maters of, Barclay, N. Y. 34 Horse Shoes, Maters of, Barclay, N. Y. 34 Horse Carlin, Macking Co., Chambers, N. Y. 35 Horse Carlin, Macking Co., Vagreen, N. Y. 35 Horse Carlin, Macking Co., Vagreen, N. Y. 35 Horse Carlin, Macking Co., Vagreen, N. Y. 35 Horse Shoes, Maters of, Barclay, N. Y. 34 Horse Shoes, Maters of, Barclay, N. Y. 34 Horse Carlin, Macking Co., Vagreen, N. Y. 35 Horse Shoes, Maters of, Barclay, N. Y. 35 Horse Carlin, Macking Co., Vagreen, N. Y. 35 Horse Carlin, Macking Co., Vagreen, N. Y. 35 Horse Shoes, Maters of, Barclay, N. Y. 36 Horse Carlin, Macking Co., Vagreen, N. Y. 35 Horse Shoes, Mackers of, Barclay, N. Y. 36 Horse Carlin, Macking Co., Philadelphia, Pa. 35 Horse Carlin, Macking Co., Philadelphia, P	Scott R. P. & Co., Newark, N. J. Shannon J. B. & Sons, 1000 Market, Phila	Coyne & Hatry, Pittsburgh, Pa. 4 Pittsburgh Mg. Co., Pittsburgh, Pa. 37 Nickel Pinters. 37
American macrites Co., 103 S. 46. Philas. 5 shepare's dimp's & Co., 104 Marko, N. Y. 27 Harrness Sangs. Covert Mg. Co., West Troy, N. Y. Harrness Sangs. Covert Mg. Co., West Troy, N. Y. Hay K nives. Hot Hiram & Co., East Wilton, Me. 33 Lowis, Oliver & Phillips. Pittaburgh. Pa. 6 Lowis, Oliver & Phillips. Pittaburgh. Pa. 6 Hot Hiram & Co., East Wilton, Me. 33 Lowis, Oliver & Phillips. Pittaburgh. Pa. 6 Hot Hiram & Co., Cheston, Decatur, Ill. 27 Hot Hiram & Co., Chicago, Ill. 9685 Hor Ringers. Polyal A. Co., Chicago, Ill. 9685 Hor Ringers. Staniey Works, New Britalin, Conn. 8 Horse Ringers. Polyal Co., Chicago, Ill. 9685 Hor Ringers. Forten & Co., Pittaburgh. Pa. 35 Horise Machiness. Forten & Co., Pittaburgh. Pa. 35 Horse Clippers. Hor Ringers of Mallet Works, 466 E. Houston. 31 Horse Clippers. Boker, Hermann & Co., tot & tot puane, N. Y. 33 Horse Clippers. Boker, Hermann & Co., tot & tot puane, N. Y. 35 Horse Nall Co., Vagreen, N. Y. 35 Rarnaed Horse Nall Co., Vagreen, N. Y. 35 Rarnaed Horse Nall Co., Plattaburgh, Pa. 39 Horse Shoes, Maters of, Barclay, N. Y. 31 Horse Shoes, Maters of, Barclay, N. Y. 34 Horse Shoes, Maters of, Barclay, N. Y. 34 Horse Shoes, Maters of, Barclay, N. Y. 34 Horse Carlin, Macking Co., Chambers, N. Y. 35 Horse Carlin, Macking Co., Vagreen, N. Y. 35 Horse Carlin, Macking Co., Vagreen, N. Y. 35 Horse Carlin, Macking Co., Vagreen, N. Y. 35 Horse Shoes, Maters of, Barclay, N. Y. 34 Horse Shoes, Maters of, Barclay, N. Y. 34 Horse Carlin, Macking Co., Vagreen, N. Y. 35 Horse Shoes, Maters of, Barclay, N. Y. 35 Horse Carlin, Macking Co., Vagreen, N. Y. 35 Horse Carlin, Macking Co., Vagreen, N. Y. 35 Horse Shoes, Maters of, Barclay, N. Y. 36 Horse Carlin, Macking Co., Vagreen, N. Y. 35 Horse Shoes, Mackers of, Barclay, N. Y. 36 Horse Carlin, Macking Co., Philadelphia, Pa. 35 Horse Carlin, Macking Co., Philadelphia, P	Stanley Works, New Britain, Conn. 8 Star Salt Caster Co. Boston. 11 Union Mfg. Co., 99 Chambers, N. Y	Hartman John, 37% N. Seventh, Philadelphia24 Nickel Platers' Supplies. Condit Hanson & Van Winkle Newark N.
Mars, Holts, St., West Troy, N. Y.  Hay K. Milves. Holt Hiram & Co., East Wilton, Me. Hinges. Holt Hiram & Co., East Wilton, Me. Lewis, Oliver & Phillips. Pittsburgh. Pa. Lewis, Oliver & Phillips. Pittsburgh. Pa. Staniey Works, New Britain, Conn.  Staniey Works, New Britain, Conn.  Bong Ringers. Holt Holt Co., Flatters. Holt Ringers. Holt Ringers. Holt Holt Co., P	Van Wagoner & Williams, 62 Beekman, N. Y38 Hardware Specialities. American Machine Co., 1925 N. 4th, Phila8	
Chambers, Berling & Quinnat, Becaut, ill. 57 Crane Bross. Miz Co., Chicago, Ill. 58 Crane Bross. Miz Co., Chicago, Ill. 58 Co. 48 Co. 58 Co. 5	Spencer & Underhill, 94 Chambers, N. Y	Note Broker. Gallaudet P. W., 3 and 5 Wall, N. Y
Chambers, Berling & Quinnat, Becaut, ill. 57 Crane Bross. Miz Co., Chicago, Ill. 58 Crane Bross. Miz Co., Chicago, Ill. 58 Co. 48 Co. 58 Co. 5	Hay Knives. Holt Hiram & Co., East Wilton, Me32 Hinges.	Haskell W. H. & Co., Pawtucket, R. I
Chambers, Berling & Quinnat, Becaut, ill. 57 Crane Bross. Miz Co., Chicago, Ill. 58 Crane Bross. Miz Co., Chicago, Ill. 58 Co. 48 Co. 58 Co. 5	Staniey Works, New Britain, Conn	Standard Nut Co., Pittsburgh, Pa. 24 Sternbergh J. H., Reading, Pa. 38
Totten & Co., Pittsburgh, Pa.  Hollaw Ware. W. T. Wells, 78 Beckman, N. Y.  Hooks (Cotten & Bale.) New York Handle & Mallet Works, 456 E. Houston. Horse Clippers. Boker, Hermann & Co., 101 & 102 Duane, N. Y.  Boker, Hermann & Co., 102 & 102 Duane, N. Y.  Boker, Hermann & Co., 102 & 103 Duane, N. Y.  Boker, Hermann & Co., 102 & 103 Duane, N. Y.  Boker, Hermann & Co., 102 & 103 Duane, N. Y.  Boker, Hermann & Co., 102 & 103 Duane, N. Y.  Boker, Hermann & Co., 102 & 103 Duane, N. Y.  Border of Co., 103 & 103 Duane, N. Y.  Bridgewater Iron Co., 104 & 103 Duane, N. Y.  Bridgewater Iron Co., 104 & 103 Duane, N. Y.  Bridgewater Iron Co., 104 & 103 Duane, N. Y.  Bridgewater Iron Co., 104 & 103 Duane, N. Y.  Bridgewater Iron Co., 104 & 103 Duane, N. Y.  Bridgewater Iron Co., 104 & 103 Duane, N. Y.  Bridgewater Iron Co., 104 & 103 Duane, N. Y.  Bridgewater Iron Co., 104 & 103 Duane, N. Y.  Bridgewater Iron Co., 104 Co., 104 Duane, N. Y.  Bridgewater Iron Co., 104 Co., 104 Duane, N. Y.  Bridgewater Iron Works, 104 Duane, N. Y.  Borse Shoes, Makers of,  Rundon Roberts, Makers of,  Burden Iron Works, 105 Phosphor Bronze Smelting Co., 203 Washington are, Philadelphia.  Bridgewater Iron Works, 105 Phosphor Bronze Smelting Co., 203 Washington are, Philadelphia.  Pleks, Makers of,  Pless Shoes, Makers of,  Burden Iron Works, 105 Phosphor Bronze Smelting Co., 203 Washington are, Philadelphia.  Bridgewater Iron Works, 105 Phosphor Bronze Smelting Co., 203 Washington are, Philadelphia.  Pleks, Makers of,  Pless, Hitings, etc., Makers of,  Pless, Fittings, etc., Makers of,  Pless, Fittings, etc., Makers of,  Pless, Hitings, etc., Makers of,  Pless, Hitings, etc., Makers of,  Pless, Fittings, etc., Makers of,  Pless, Makers of,  Pless, Makers of,  Pless, Makers of,  Plons,	Chambers, Bering & Quinian, Decatur, III	Boyd & Chase, 107th and Harlem River, N. Y 30
Totten & Co., Pittsburgh, Pa.  Hollaw Ware. W. T. Wells, 78 Beckman, N. Y.  Hooks (Cotten & Bale.) New York Handle & Mallet Works, 456 E. Houston. Horse Clippers. Boker, Hermann & Co., 101 & 102 Duane, N. Y.  Boker, Hermann & Co., 102 & 102 Duane, N. Y.  Boker, Hermann & Co., 102 & 103 Duane, N. Y.  Boker, Hermann & Co., 102 & 103 Duane, N. Y.  Boker, Hermann & Co., 102 & 103 Duane, N. Y.  Boker, Hermann & Co., 102 & 103 Duane, N. Y.  Boker, Hermann & Co., 102 & 103 Duane, N. Y.  Border of Co., 103 & 103 Duane, N. Y.  Bridgewater Iron Co., 104 & 103 Duane, N. Y.  Bridgewater Iron Co., 104 & 103 Duane, N. Y.  Bridgewater Iron Co., 104 & 103 Duane, N. Y.  Bridgewater Iron Co., 104 & 103 Duane, N. Y.  Bridgewater Iron Co., 104 & 103 Duane, N. Y.  Bridgewater Iron Co., 104 & 103 Duane, N. Y.  Bridgewater Iron Co., 104 & 103 Duane, N. Y.  Bridgewater Iron Co., 104 & 103 Duane, N. Y.  Bridgewater Iron Co., 104 Co., 104 Duane, N. Y.  Bridgewater Iron Co., 104 Co., 104 Duane, N. Y.  Bridgewater Iron Works, 104 Duane, N. Y.  Borse Shoes, Makers of,  Rundon Roberts, Makers of,  Burden Iron Works, 105 Phosphor Bronze Smelting Co., 203 Washington are, Philadelphia.  Bridgewater Iron Works, 105 Phosphor Bronze Smelting Co., 203 Washington are, Philadelphia.  Pleks, Makers of,  Pless Shoes, Makers of,  Burden Iron Works, 105 Phosphor Bronze Smelting Co., 203 Washington are, Philadelphia.  Bridgewater Iron Works, 105 Phosphor Bronze Smelting Co., 203 Washington are, Philadelphia.  Pleks, Makers of,  Pless, Hitings, etc., Makers of,  Pless, Fittings, etc., Makers of,  Pless, Fittings, etc., Makers of,  Pless, Hitings, etc., Makers of,  Pless, Hitings, etc., Makers of,  Pless, Fittings, etc., Makers of,  Pless, Makers of,  Pless, Makers of,  Pless, Makers of,  Plons,	Davis A. J. & Co., Newark, N. J	Lake Superior Paint Co., Cleveland, Ohio
Boker, Hippina & Co., tot tog Duane, N. Y.  Boker, Hippina & Co., tot tog Duane, N. Y.  Anvil Nail Co., 6; Washington, N. Y.  Bridgewater Iron Co., Bridgewater, Mass.  FP Nail Co., Cleveland, O.  Saranac Horse Nail Co., Cleveland, O.  Saranac Horse Nail Co., Plattaburg, N. Y.  Burden Iron Works, Troy, N. Y.  Eureka Fire Hose Co. 13 Barclay, N. Y.  I ose Cart.  Manard & Bro., Rockford, II.  Honseurrhishing Hoods.  Flerce Geo. N. & Co., Buffalo, N. Y.  I'dramits & Co.  McLean John, 20-Monroe, N. Y.  Mohawk & Hudson Mg. Co., Waterord, N. Y.  John E. & Co., And Grand, N. Y.  John E. & Co., And Grand, N. Y.  Word R. D. & Co., Co., Chambers, N. Y.  Hall, Ellon & Co., 20 Chambers, N. Y.  Rogers Cutlery Co., Hartford, Ch.  Hall, Ellon & Co., 75 Chambers, N. Y.  See Picks.  Word R. A. & John, N. Y.  Soweks A. A. & John, N. Y.  Hall, Ellon & Co., 75 Chambers, N. Y.  See Picks.  Word R. A. & John, N. Y.  Burden Hong Co., 60 Chestnat, Philadelphia.  Blue Winging Machine Co., 90 Chambers, N. Y.  Rogers Cutlery Co., Hartford, Ch.  Hall, Ellon & Co., 75 Chambers, N. Y.  Soweks A. A. & John, N. Y.  Soweks A. A. & John, N. Y.  Hartford Steam Boller Inspection & Insurance Co.  Hartford Steam Boller	Clem & Morse, 413 Cherry, Philadelphia.  Harrington Edwin & Son, Philadelphia, Pa37  Hollow Chilled Rolls.	Thompson G. R. Oniney III
Boker, Hippina & Co., tot tog Duane, N. Y.  Boker, Hippina & Co., tot tog Duane, N. Y.  Anvil Nail Co., 6; Washington, N. Y.  Bridgewater Iron Co., Bridgewater, Mass.  FP Nail Co., Cleveland, O.  Saranac Horse Nail Co., Cleveland, O.  Saranac Horse Nail Co., Plattaburg, N. Y.  Burden Iron Works, Troy, N. Y.  Eureka Fire Hose Co. 13 Barclay, N. Y.  I ose Cart.  Manard & Bro., Rockford, II.  Honseurrhishing Hoods.  Flerce Geo. N. & Co., Buffalo, N. Y.  I'dramits & Co.  McLean John, 20-Monroe, N. Y.  Mohawk & Hudson Mg. Co., Waterord, N. Y.  John E. & Co., And Grand, N. Y.  John E. & Co., And Grand, N. Y.  Word R. D. & Co., Co., Chambers, N. Y.  Hall, Ellon & Co., 20 Chambers, N. Y.  Rogers Cutlery Co., Hartford, Ch.  Hall, Ellon & Co., 75 Chambers, N. Y.  See Picks.  Word R. A. & John, N. Y.  Soweks A. A. & John, N. Y.  Hall, Ellon & Co., 75 Chambers, N. Y.  See Picks.  Word R. A. & John, N. Y.  Burden Hong Co., 60 Chestnat, Philadelphia.  Blue Winging Machine Co., 90 Chambers, N. Y.  Rogers Cutlery Co., Hartford, Ch.  Hall, Ellon & Co., 75 Chambers, N. Y.  Soweks A. A. & John, N. Y.  Soweks A. A. & John, N. Y.  Hartford Steam Boller Inspection & Insurance Co.  Hartford Steam Boller	Totten & Co., Pittsburgh, Pa.  [Iotlow Ware. W. T. Wells, 78 Beekman, N. Y	Howson & Son. Phila. and Washington, D. C. 8 Simonds & Osgood, 81 Astor House, N. Y
Ausable Horse Nail Co. , Warren, N. Y. 27 Bridgewater Iron Co. Bridgewater, Mass. 66 FP Nail Co., Cieveland, O. 32 National Horse Nail Co., Vergennes, Vt. 33 Northwestern Horse Nail Co., Cicazo, III. 33 Saranac Horse Nail Co., Plattaburg, N. Y. 44 Horse Shoese, Makers of, National Horse Shoese, National Horse Sho	New York Handle & Mallet Works, 456 E. Houston13 Horse Clippers. Boker Hermann & Co101 & 102 Duane. N. Y31	Weidersheim John & Co., 110 South 4th, Phila 8 Pens, Steel.
Hence (Linen). Eureka Fire Hose Co. 13 Barclay, N. Y. Hose Cart. Manard & Bro., Rockford, IP. Hose Cart. Hanse Manyacturers of. Buck Bro., Manyacturers of. Buck Bro., Milibury, Mass. Hall Richard Level Co., 29 Chambers, N. Y. 25 Bailey Wringing Machine Co., 29 Chambers, N. Y. 25 Bailey Buck Bro., Manyacturers of. Bailey Wringing Machine Co., 29 Chambers, N. Y. 25 Bailey Buck Bro., Schambers, N. Y. 25 Bunne P. R., 182 Futton, N. Y. Durderon Richard, 24 Columbia, N. Y. Surhard Jas. M., Scranton, Pa. Boker Hermann & Co., 10 Duane, N. Y. Syerhard Jas. M., Scranton, Pa. Boker Hermann & Co., 10 Duane, N. Y. Hartford Steam Boller Inspection & Insurance Co., 27 ron Brokers, 70 Wall, N. Y. Hartford Steam Boller Inspection & Insurance Co., 27 ron Brokers, 70 Wall, N. Y. Hartford Steam Boller Inspection & Insurance Co., 27 ron Brokers, 70 Wall, N. Y. Hartford Steam Boller Inspection & Insurance Co., 27 ron Brokers, 70 Wall, N. Y. Hartford Steam Boller Inspection & Insurance Co., 27 ron Brokers, 70 Wall, N. Y. Hartford Steam Boller Inspection & Insurance Co., 27 ron Brokers, 70 Wall, N. Y. Hartford Steam Boller Inspection & Insurance Co., 27 ron Charccoal, Warm or Cold Blass, Quincy John W., 36 Villam N. Y. Adans Hugh W., 56 Pine, N. Y.  Lowe S. B. Co., 40 Co., 20 Chambers, N. Y. Hartford Steam Boller Co., 30 Chambers, N. Y. Hartford Steam B	Horse Nails, Makers of. Anvil Nail Co., 5; Washington. N. Y	Phosphor Bronze Smelting Co., 2028 Washington
Hese (Linen). Eureka Fire Hose Co. 13 Barclay, N. Y. I ose Cart. Manard & Bro., Rockford, IP. Houseureishing Goods. Flore Geo. N. & Co., Buffalo, N. Y. Houseureishing Goods. Flore Geo. N. & Co., Buffalo, N. Y. Holmes, Manyfacturers of. Buck Bro., Milhury, Mass. Janes, Manyfacturers of. Buck Bro., Milhury, Mass. Janes, Manyfacturers of. Balley Wringing Machine Co., op Chambers, N. Y. Balley Wringing Machine Co., op Chambers, N. Y. Hatle Elon Geo., 25 Chambers, N. Y. Lone E. & Co., 49 Grand, N. Y. Lyon E. & Co., 40 Grand, N. Y. Lyon E. & Co., 49 Granders, N. Y. Lyon E. & Co., 49 Grand, N. Y. Lyon E. & Co., 49 Grand, N. Y. Lyon E. & Co., 49 Grand, N. Y. Lyon E. & Co., 49 Grand	Bridgewater Iron Co., Bridgewater, Mass. 6 FP Nail Co., Cleveland, O. 32 National Horse Nail Co., Vergennes, Vt. 21	Picks, Makers of, Pierson & Co., 24 Broadway, N. Y
Hese (Linen). Eureka Fire Hose Co. 13 Barclay, N. Y. I ose Cart. Manard & Bro., Rockford, IP. Houseureishing Goods. Flore Geo. N. & Co., Buffalo, N. Y. Houseureishing Goods. Flore Geo. N. & Co., Buffalo, N. Y. Holmes, Manyfacturers of. Buck Bro., Milhury, Mass. Janes, Manyfacturers of. Buck Bro., Milhury, Mass. Janes, Manyfacturers of. Balley Wringing Machine Co., op Chambers, N. Y. Balley Wringing Machine Co., op Chambers, N. Y. Hatle Elon Geo., 25 Chambers, N. Y. Lone E. & Co., 49 Grand, N. Y. Lyon E. & Co., 40 Grand, N. Y. Lyon E. & Co., 49 Granders, N. Y. Lyon E. & Co., 49 Grand, N. Y. Lyon E. & Co., 49 Grand, N. Y. Lyon E. & Co., 49 Grand, N. Y. Lyon E. & Co., 49 Grand	Northwestern Horse Nail Co., Chicazo, Ill33 Saranac Horse Nail Co., Plattsburg, N. Y	McNab & Harlin Mfg. Co., 46 John, N. Y
Houseful ruishing **Astuas**.  Plerce Geo. N. & Co., 19 Buffalo, N. Y.  It dramts, & C.  Robard Mills December S. N. Y.  Robard Mills December S. N. Y.  Robard Mills December S. N. Y.  It describes Market	Rhode Island Horse Shoe Co., Providence, R. I33 Schoenberger & Co., Pittsburgh, Pa	Pipe. Water and Gas. Makers of. McNeals & Archer, Burlington, N. J
Halley Writing Machine Co. og Chambers, N. Y. 25 Plarter Ware.  Notani & Hudson Mig. Co., Wateriord, N. Y. 25 Notani & Hudson Mig. Co., Wateriord, N. Y. 25 Plarter Ware.  Notani & Hudson Mig. Co., Wateriord, N. Y. 25 Plarter Ware.  Notani & Hudson Mig. Co., Wateriord, N. Y. 25 Plarter Ware.  Notani & Hudson Mig. Co., Wateriord, N. Y. 25 Plarter Ware.  Notani & Hudson Mig. Co., Wateriord, N. Y. 25 Planter Ware.  Notani & Hudson Mig. Co., Wateriord, N. Y. 25 Planter Ware.  Notani & Co., 100 Lanning, Managacturers of.  Carr Wm. S. & Co., 100 Chambers, N. Y. 20 Planter Materialis, Managacturers of.  Carr Wm. S. & Co., 100 Chambers, N. Y. 20 Planter Materialis, Managacturers of.  Carr Wm. S. & Co., 100 Chambers, N. Y. 20 Planter Ware.  Notani Jack S. Co., 100 Chambers, N. Y. 20 Planter Ware.  Notani Jack S. Co., 100 Chambers, N. Y. 20 Planter Ware.  Notani Jack S. Co., 100 Chambers, N. Y. 20 Planter Ware.  Notani Jack S. Co., 100 Chambers, N. Y. 20 Planter Ware.  Notani Jack S. Co., 100 Chambers, N. Y. 20 Planter Ware.  Notani Jack S. Co., 100 Chambers, N. Y. 20 Planter Ware.  Notani Jack S. Co., 100 Chambers, N. Y. 20 Planter Ware.  Notani Jack S. Co., 100 Chambers, N. Y. 20 Planter Ware.  Notani Jack S. Co., 100 Chambers, N. Y. 20 Planter Ware.  Notani Jack S. Co., 100 Chambers, N. Y. 20 Planter Ware.  Notani Jack S. Co., 100 Chambers, N. Y. 20 Planter Ware.  Notani Jack S. Co., 100 Chambers, N. Y. 20 Planter Jack S. Co., 100 Chambers, N. Y. 20 Planter Jack S. Co., 100 Chambers, N. Y. 20 Planter Jack S. Co., 100 Chambers, N. Y. 20 Planter Jack S. Co., 100 Chambers, N. Y. 20 Planter Jack S. Co., 100 Chambers, N. Y. 20 Planter Jack S. Co., 100 Chambers, N. Y. 20 Planter Jack S. Co., 100 Chambers, N. Y. 20 Planter Jack S. Co., 100 Chambers, N. Y. 20 Planter Jack S. Co., 100 Chambers, N. Y. 20 Planter Jack S. Co., 100 Chambers, N. Y. 20 Planter Jack S. Co., 100 Chambers, N. Y. 20 Planter Jack S. Co., 100 Chambers, N. Y. 20 Planter Jack S. Co., 100 Chambers, N. Y. 20 Planter Jack S. Co., 100 Chambers, N. Y. 20 Pocket L	Hose Cart.	Plane Irons, Manufacturers of. Buck Bros., Millbury, Mass. 32
McLoam John, 20 Monroe, N. Y. McLoam John, 20 Monroe, N. Y. Nohawk & Hudson MR. Co., Wateriord, N. Y. J. Ydranile Jacks. Dudgeon Richard, 24 Columbia, N. Y. Lyon E. & Co., 49 Grand, N. Y.  Lyon E. & Co., 49 Grand, N. Y.  Sunne P. R., 18 Futton, N. Y.  Weeks A. A. & John, N. Y.  Hartford Steam Boller Inspection & Insurance Co., 37 ron Brokers, 70 Wall, N. Y.  Hartford Steam Boller Inspection & Insurance Co., 37 ron Brokers, 70 Wall, N. Y.  Hartford Steam Boller Inspection & Insurance Co., 37 ron Brokers, 70 Wall, N. Y.  Hartford Steam Boller Inspection & Insurance Co., 37 ron Brokers, 70 Wall, N. Y.  Hartford Steam Boller Inspection & Insurance Co., 37 ron Brokers, 70 Wall, N. Y.  Hartford Steam Boller Inspection & Insurance Co., 37 ron Brokers, 70 Wall, N. Y.  Hartford Steam Boller Inspection & Insurance Co., 37 ron Brokers, 70 Wall, N. Y.  Hartford Steam Boller Inspection & Insurance Co., 37 ron Brokers, 70 Wall, N. Y.  Hartford Steam Boller Inspection & Insurance Co., 37 ron Brokers, 70 Wall, N. Y.  Hartford Steam Boller Inspection & Insurance Co., 37 ron Brokers, 70 Wall, N. Y.  Half, Elton & Co., 75 Chambers, N. Y.  Stepring Materials, Manayloures of June Plancher, N. Y.  Sporhart Jas. M. Scranton, Pa.  Sporhart Jas. M. Sc	Housemenishing Goods.	Stanley Wringing Machine Co., 50 Chambers, N. Y10
Lyon E. & Co., 49 Orans.  Dunne P. R., 105 Philos, N. Y.  Dunne P. R., 105 Philos, N. Y.  White Mountain Freezer Co., Laconia, N. H.  See Pick.  White Mudson Mfs. Co., On. Dunne, N. Y.  See Pick.  White Mudson Mfs. Co., Conn.  See Pick.  Presses, Fruit and Match Suite.  See Pick.  White Mudson Mfs. Co., N. Y.  Selfect Hermann A. H.  West Meriman A. H., West Meriden, Conn.  See Pick.  See Pick.  White Mudson Mfs. Co.  See Pick.  See Pick.  White Mudson Mfs. Co., On.  See Pick.  Se	McLean John, 302 Monroe, N. Y	Hall, Elton & Co., 75 Chambers, N. Y
Weeks A.A. & John, N. Y.  Presses. Fruit and Vegetable.  Presses. Fruit and Vegetable.  Presses. Fruit and Vegetable.  Weeks A.A. & John, N. Y.  Presses. Fruit and Vegetable.  Presses. Fruit and Vegetable.  Weeks A.A. & John, N. Y.  Presses. Fruit and Vegetable.  Presses. Power. Maker of.  Merriman A. H. West Meridan A	Dudgeon Richard, 24 Columbia, N. Y. 9 Lyon E. & Co., 470 Grand, N. Y. 34 Cee Crenm Freezers. 34	Pocket Buives.
Hatry A. G., Pittsburgh. Ps		
Hatry A. G., Pittsburgh. Ps	Weeks A. A., 82 John, N. Y nsurance, Boiler. Hartford Steam Boller Inspection & Insurance Co., 37	Mohawk & Hudson Mfg. Co., Waterford, N. Y25 Presses, Power, Makers of.
Pullrey 3. U., Flusturan Could Blast. Quincy John W., & William N. Y. Fon Commission Merchanus. Adams Hugh W., & Fline, N. Y. Adams Hugh W., & Hugh Black Black Cox, N. Y. Adams Hugh W., & Hugh Black Black Cox, N. Y. Adams Hugh W., & Hugh W., & Hugh Black Black Cox, N. Y. Adams Hugh W., & Hugh Black Black Black Hugh W., & Hugh Black Black Black Black W., Carporidence, R. I.  Browled W., & B., Middel Block W., N. Y. Adams Hugh W., & B., M., N. Y. Adams Hugh W., & Hugh W., & Hugh Black Blac	non Brokers.	THO DELLOS OF L ME ACT L LOSS CO., MINGGEOTO WAS CO
Adams Hugh W., 56 Fine, N. V.  Lowe S. B., Chattanooga, Fenn	ron, Charcoal, Warm or Cold Blast. Quincy John W., 98 William N. Y	Cesterline W., Cincinnati, Ohio24 Pentisia Block Works, Lockport, N. Y
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Abeel Brothers, no South, N. Y.  Bonnell, Bolaford & Co., Youngstown, O.  Borden & G., Youngstown, O.  Carmell, Bolaford & Co., Youngstown, O.  Harrison & W. J., 30 and 32 Cedar, N. Y.  Harrison & Gilloon, 435 to 502 Water, N. Y.  Hoffman J. W. & Co., 26 S. Fourth, Philadelphia.  Judson B. F., 457 and 469 Water, N. Y.  Lundberg Gustaf, & Kilby, Boston, Mass.  Cagden & Wallace, S., 67, 98 and 32 Elm, N. Y.  Lundberg Gustaf, & Kilby, Boston, Mass.  Geden & Wallace, S., 67, 98 and 32 Elm, N. Y.  Herson & Co., 34 Philadelphia, P.  Flerson & Co., 34 Co., 32 Mangin, N. Y.  Richards D. W. & Co., 23 Mangin, N. Y.  Wallace Wm, H. & Co., 60, Albany and Washington streets, N. Y.  Wallace Wm, H. & Co., 60, Albany and Washington streets, N. Y.  Wallace Wm, H. & Co., 60, Mall, N. Y.  Williamson Jamos & Co., 60 Will, N. Y.  Burden Iron Works, 707, N. Y.  Standard Rensselaer Iron & Steel Co., Troy N. Y.  Bradley, Reis & Co., New Castis, Pa.  Bradley, Reis & Co., Fitzburgh, Pa.  Condit, Wick & Co., Ciceson, Mass.  Kirkpatrick, Beaie & Co., Fitzburgh, Pa.  Condit, Wick & Co., Co., Fitzburgh, Pa.  Condit, Wick &	ren, Pig, Importers of. Williamson James & Co., 69 Wall, N. Y	Gunnison, A. B., Erie, Penn
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Pierson & Co., 24 Broadway, N. F.  Pullman J. Wesley, Philadelphia, P	Kane C., Pittsburgh, Pa	Rivets. Gilmor Wm., of Wm., Baltimore, Md
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we have in our organization some who are not co-operating with us at all, who have been outside all the while—skirmishers been outside all the while—skirmishers— and we have found some advantage already in including them in our counsels and secur-ing their co-operation, and have done so to some considerable extent. I think it can be extended still further. I am very well satisfied that if we leave it as we have done, at 5 cents a pound, it will hardly be carried into execution generally by the manufac-turers.

The resolution was seconded and adopted Mr. U. Hill, Jr.: Have we run through the docket, Mr. President? Is there any further business? The President: I do not know of any. Mr. U. Hill, Jr.: Mr. President, I move we

Mr. U. Hill, Str. and Mr. George W. Barbour: I suggest, before we adjourn, that it would be well to decide where we hold our next meeting.

The President: That question was decided at Rochester last winter. It is to be held at New York in February.

New York in February.
I trust all the members will accept the in

vitation of our friends from Boston to ac-company them down the harbor this after-noon. I am very confident we shall have a very pleasant time, and those who do not go will regret it very much. The question is upon the motion of Mr. Hill, that we do now adjourn.

The President put the motion, which was

carried, and the convention then adjourned, to meet in New York City the first Wednesday (4th) of February, 1880.

### THE ENTERTAINMENTS

The entertainments provided by the Boston members consisted of a carriage ride on Wednesday afternoon and a sail down the harbor on Thursday. The carriage ride was so arranged as to show the visiting members the principal points of interest in and near the city, and was greatly enjoyed by those who had been thoughtful enough to take overcoats along. Those who did not found the air rather too chilly for comfort.

The sail down the bay on Thursday was delightful. At Downer's landing a stop was made for a fish and clam dinner. This was served in excellent style, with the unusual accompaniment of champagne. On the return trip there was much fun. Mr. Van Wormer gave modified selections from "Pinafore." Mr. Gardner rendered "The Babies on Our Block" in a style fully up to the professional standard. Mr. Bowditch interpreted the touching ballad of Mr. Mike McGovern and his sportive daughter, Mary Ann, who insisted on "Skipping the tra-laloo." Other gentlemen made acceptable contributions to the entertainment. We are happy to say there was no speech making, but that the fun was entirely of an impromptu kind, and largely accounted for by the effervescent character of the soda water dispensed on the lower deck.

As a whole, the convention was a great success, and we are only sorry that it is the last of the many delightful summer meetings of the association. If anything could induce the members to reconsider the vote amending the constitution and providing for one meeting a year at New York in February, it would, we think, be the memory of the Boston summer meeting and of the delightful hospitality of the New England members. We hope such a reconsideration will be reached in February. If not, some of the members who have found in these semi-annual meetings an opportunity for abundant enjoyment of a kind not always to be safely had at home, will realize that the historic remark of His Excellency the Governor of North Carolina to His Excellency the Governor of South Carolina, has a peculiar and pathetic significance.

### State Railroad Taxation.

At a convention of State railroad commit-sioners, held at Saratoga during the course of this month, a preliminary report was read by Charles Francis Adams, Jr., on State railroad taxation, the material gathered being of such volume that a final report could not be prepared within the time given. The confusion as regards legislation on the subject is stated to be difficult to imagine. The requisites of a correct system of rail-The requisites of a correct system of railroad, as of other taxation, are that it should,
in so far as it is possible, be simple, fixed,
proportionate, easily ascertainable, and
susceptible of ready levy. Very few of the
systems now in use were found to have any
of these features. So far from being fixed,
they are, most of them, extremely arbitrary
and fluctuating. Neither are they proportionate, as in some cases the measure of valnation is the market price of securities: in uation is the market price of securities; in nation is the market price of securities; in others, the arbitrary estimates of apprais-ers; in yet others, gross receipts; and in others, local assessment. That the tax should be almost impossible of ascertainment under these circumstances, does not need to leave these circumstances, does not need to be said. As to being susceptible of ready levy, any tax assessed on and paid by a railroad corporation must be that, but it would appear that a large portion of the taxes now levied must either be ovaded, or taxes now levied must either be evaded, or else are in the nature of a double taxation, for the securities on which they are levied are, in the eye of the law, personal property, assessable at the residence of the owner. Local taxes paid by the corporation in one State do not affect these securities if held in another, and they are thus subject to an additional levy, the amount of which must depend upon the honesty of the holder of property or the astuteness of local tax gatherers. The conclusion at

commendation of this resolution unless there is something more done in the matter. I therefore move the following:

Resolved, That in order to secure the co-operation of the manufacturers in the various sections of country, we recommend that the chairman of the several local organizations bring the subject suggested in the resolution, in regard to prices, before their local bodies for their consideration and action.

One object I have in this is the fact that we have in our organization some who are not co-operating with us at all, who have been outside all the while—skirmishers—and we have found some advantage already in including them in our counsels and security.

Which the committee arrived was that all the requisites of a sound system were found in taxes on real property and on gross receipts, and in no others; in fact, that if these were properly imposed, no other taxes would be necessary, as nothing could escape untaxed. Under this system, the real estate of the railroad corporations held for corporate uses outside of their right of way, would be locally assumed, exactly in the same way as the real estate of private persons or of other corporations adjoining it was assessed. There would be no distinct our corporations adjoining it was assessed. There would be no distinct our corporations adjoining it was assessed. There would be no distinct our corporations adjoining it was assessed. There would be no distinct our corporations adjoining it was assessed. There would be no distinct our corporations adjoining it was assessed. There would be no distinct our corporations adjoining it was assessed. There would be no distinct our corporations adjoining it was assessed. There would be no distinct our corporations adjoining it was assessed. There would be no distinct our corporations and our corporations are countries of a sound or grant of the required way as the real estate of private person our corporations and our corporations are countries of the railroad corporations are countries of the railroad corporatio tax on real property. Beyond that, a cer-tain fixed percentage, established by law and of general application, should be assessed on the entire gross earnings of the corporations, and this should be in lieu of all forms of taxation on what is known as personal property.

### The Danube and Corinth Canals.

The London Globe says: Even if the money—the only insuperable obstacle to the engineer-be forthcoming, it will be many years before we can hope to see the junction of the Atlantic and Pacific. The Panama Canal seems a gigantic work to us, but it falls short of the enterprises of antiquity notably the whim of Nero to unite the Tiber to Lake Avernus by a ship canal of 150 miles in length. Such feats were possible in times when slaves could be employed in gangs of 20,000, as they were in construct-ing the Julian port. But it would scarcely have stood our modern test, which demands a financial as well as a mechanical success such, for instance, as the canal of Langue-doc, which, by connecting the Atlantic and the Mediterranean, has proved of incalcula-ble benefit. While, however, the great enterprise is absorbing the attention of the terprise is absorbing the attention of the world, there are two minor works which might profitably be undertaken pour passer le temps. The Greeks have unfortunately consumed their energies on their grand idea; otherwise, by the aid of modern science, they would long ago have solved the problem that exercised the ancient world from the time of Periander to Nero. The Isthmus of Corinth is but four miles in breadth, and by Corinth is but four miles in breadth, and by cutting a canal from Kalamaki to Lutraki the Hellenic kingdom would gain more material prosperity than by years of filibustering. It was by commerce that Athens gained and maintained its position, and if the Greeks are to approach to the ancestors of whom they talk so much, it must be by developing their mercantile capacities. The other pressing need to which we would draw attention is a channel which would give easy access from the Danube to the Black easy access from the Danube to the Black Sea. We have not enough faith in the energy of Bulgar and Roumanian to leave the matter to their initiation. It must be intrusted to abler hands, and it offers prospects which may justly invite capital. A viate the necessity of the long, intricate and dangerous navigation of the Danube mouths, and thereby give an immense impetus to the trade of the riverine states. In addition to this, it would be the means of reclaiming many thousand acres of some of the most fertile land in the world. It would, more-over, confer an inestimable boon upon Europe by convincing Russia that she must at length abandon her design upon the freedom of the Danube, which was her object in lemanding the retrocession of Bessarabia.

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sult.

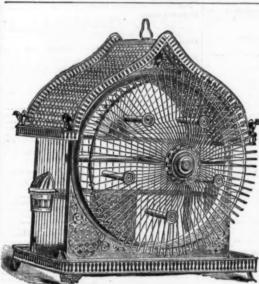
5th.—The Armstrong Dies can be sharpened without drawing the temper, and can be kept in good condition easier and with less expense than any other Dies ever offered to the public. A mechanic can sharpen these Dies, and is not obliged to send them to the manufacturer, as is the case with solid Dies when they become dull.

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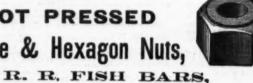
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Machine Company for improvements in Dynamo-Electric Machines, by either selling or using mach-ines embodying those improvements.

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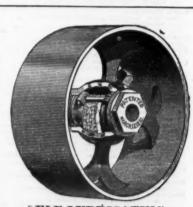
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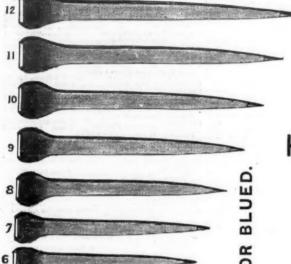
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Mrs. P Comb	ott's Pat. Col ned Fluter ar d Paper.	d Handle, " ad Sad Iron.	Crown" .per doz \$	dis 33	15 %
Baede	ined Fluter as d Paper. r & Adamson' "" angland, same	s Flint, oo to	214\$4.25 & 3. 4.75 rted 4.25	ream   ream	dia
New E	ngland, same	Emery list as B. &	ream \$6.50 A. Flint	reain ( ) II. 40 )	20 %
Sasi Comm	Lake Russia White Drab Co ide.	*************	W 10 10	dis 20/	net
Bilver	Lake Russia White	Flax Cotton	P B	540, dis 550, dis	net to \$
Raw H Steel R	ideibbon			dis	25 % 10 %
Clark's Fergus Walker	Locks. I Locks. I, No. 1, \$10.00; on's.	No. 2, \$8.00	per gross.	dis 33	50%
Hamm Northu The Pe	ond's Windov o Window Sp rfect, Clark &	v Springs rings Smith, Plair	9.00 per gr	oss, dis i	14 % 10 % net
Sask	on's. 's. ond's Windov p Window Sp rfect, Clark & 'Welshts age Stuffer	Por Knob Nickel-Pla Solid Eves.	Jap'd. # gr Med # gr	0 14.00 1 0 27.00 1	net net 160
Miles Perry	nt No.	dos, No. 1,	*** doz	\$20, dis 3 \$21, dis 4	0.5
Enterpr	ut No. 4	************	each \$30	dis a	5 %
Disston	S Circular	***********		dis 3	15
Boynton	Hand, Pane a's Lightning, One-Man	I, Rip, &c Cross Cuts, It lengths	new list.	dis ac	*
Wheele	Billet Webs	i 30 in	F doz 88	00, dis 30	XX
Livings	Circular Mill Cross Cut Hand. Pane I's Lightning. One-Man, a Billet Weis R Clemson I ton's Butcher Framed Lightning. One-Man, a Billet Weis I do	wood-	104	dl8 20	4
Faw White	Framed  5ioi  102.\$10.00  Frames.  Vermont  ished and Valls.  3ets.  's Patent	8.º 10.00	7. 50	6.25 not	
Red. Pol	ished and Va	rnished	Bie list d	00, dis 25	N N
Boynton	's Patent 's Genuine Imitation	pe	doz. \$10.	00, dis 30	% 14
each's.	Sets. 1's Patent 1's Genuine Imitation 1 Lever N.	No. 0, \$5.00;	No. 1, \$15.0 0. 2, \$5.40.	00, dis 34 00, dis 15 lis 201 10	*
-minmen	. ALOLCH KISS	*********		O 010 to	of the same of the

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Hart's Patent Lever	Wire.   Brass and Copper   List of July 1, 1578 dis 2638
Disston's   dis 2	Bright and Annealed Nos. o @ 18. dis 174 @ 6
Union Platform	5.5 Coppered
Fairbanks' dis 20&	Nos. 7 to 18market list, dis 3716 @ 3
Chatilion's Grocers'	Cast Steel
Family Universal	Grape, Nos. 10 to 14
Scale Beams, Chatillon's listdis 2 Sargent's list	** Nos. 10 and 11
Sargent's list.  Adjustable Box Scraper (S. R. & L. Co.), \$5,50,dis 25,50, dis 25,50, dis 3,50,	Fence Staples. Gaivanized. F B 0 6 0 Staples, Gaivanized. F B 7 675
Box, 1 Handle	Japanned Barb Fence. \$7.00 to £ go
Foot	Steel Music Wire, Nos. 12 to 27. R B \$1.00. 1 et Judd's Picture Wire. dis 80 t 20 kg
Berew Drivers.	Green Wire Cloth, per sq. foot, 36 @ 314C
Douglass Mig. Co	American Adjustabledis 4
Dissecon's Patent Excelsion dis 224 Buck Bros dis 224	Collins & Co.'s
Stanley Rule & Level Cos., Varnished Hdis., dis 50&10  Black Handler dis 40&10  Severant & Co.'s	Pattern (Wrought)dis fo&ro&ro
Sargent & Co.'s. dis cockr  Screws. dis cockr  Fist He diron. dis 6  Round Head Iron. dis 4  Bound Head Brass. dis 4  Bound Head Brass. dis 5  Irans and Sires tapped. dis 6  Japannes and Sires tapped. dis 6  Jack (Wilson's). dis 6  Jack (Wilson's). dis 5  Sash(T. & S. Mg. Co.). dis 5  Siberare and Scissors. dis 8  Jack Sires and Scissors.	L. Coss, "Mechanics"
Round Head Brass dis 4	Davis' Patent Duplex
Brass and Silver Capped	Merrick's Pattern dis 4083
Lag or Common Coach	Aiken Pocket (Bright)
Machine, Flat Head, Iron, Am. Screw Codis 10@10	Webster's Pat. Combination dis 38
Bench, Iron	Peerless, No. o, no Cogs. Per do No. 1, 51.
Henddis 20&10	No. 236, with Cogs
" " Humason, Beckley & Cos (low list)	" No. 4, " 71
Jack (Wilson's)	Universal, Cog Wheels, No. 256.
Shears and Scissors. Cast Steeldis 80&10	% Crown No. 2. "No. 1)6
Seymour's Straight Trimmers	No. 236
Shan(T. & S. MR. Co	S. Novelty, No. 10, with Cog Wheels
Tinners'	Excelsior, No. A, with Folding Bench
Sheaves. Bliding Door, M. W. & Co., listdis 35&10&2	No. 2, Iron
Heinisch Trimmers and Scissors dis 65 Slicewes	dis School of the Color of the
Russell's Anti-Friction dis 70&10 &2  Moore's Anti-Friction dis 70&10 &2	Stamped Tinware.—New List Dec. 1, 1878. Common Stamped Ware
Sliding Shutter, R. & E. list dis 50 22 Sargent's list dis 5,2210	stamped Deep and Retinued Waredis 25
Moore's Anti-Friction (Hanging)	METALS.
Ames, New list, Jan. 1, '79	3
Old Colony	HON.—DUTY: Bars, 1 to 11/6c. * b; Sheet, Band Hoop and Scroll, 1/4 to 11/4c. * b; provided, that non
B. Rowland's "Regular," new list	for the above from snail pay a less rate of duty than 3 per cent. Pig, \$7 \$7 ton; Polished Sheet, 3c. \$1 to Wrought Scrap \$8 \$7 ton; Cast Sareh \$2.
Oxford Patent, new list	Railroad 70c. # 100 hs. Boller and Plate, 114c. # h.
Iron and Brass Head, R. & E. list	Foundry No. 1
Sintes. Square Frames, Round Cornered, by casedis 70	RON.—DUTY: Bars, I to 1½C. \( \Psi \) \( \mathbb{B} \) : Sheet, Bans   Hoop and Scroll, 1½ to 1¾C. \( \Psi \) \( \mathbb{B} \) : provided, that non of the above fron shall pay a less rate of duty than 3 per cent. Pig. \( \Psi \) \( \mathbb{C} \) in the control of the above fron shall pay a less rate of duty than 3 per cent. Pig. \( \mathbb{C} \) in the control of the above fron shall pay a less rate of duty than 3 per cent. Pig. \( \mathbb{C} \) in the control of the
Less than a casedis 65&10	Cottness
Defiance Metallic	Rails.
Bailey's (Stanley R & L. Co.) new list dis 25&10	Steel, at tidewatir
Bonney's	Wrought Scrap, from yard. F ton. nom. 23.00 @ 24.00
Douginss'	Common Iron:
Tinned Irondis 40.85 Bastingdis 40.85	To 6 in. x 1/4 to 1 in
Derby Silver Co	1 to 6 in. x½ to 1 in
Rogers & Bro., A L	Rods—56 and 11-10 round and square.
Hall & Elton	Ordinary sizes
German Stiver	Sheet Iron. Common R. G.
Tin (P. S. & W.), Teas	Nos. 10 to 20
	21 to 24 W B 3C 24f
Tim Cowles Hdw. Co.)	21 to 25. W b 30 25 to 26. B b 34c 4 27. U b 25c 444
Tables \$5.50 V gross, net Tin Cowlas Hdw. Co.)	21 to 24.
Tables \$5.50 % gross, net Tin Cowlas Hdw Co.)	21 to 24.
Tables \$5.50 & gross, net to the control of the con	21 to 24.
Tables \$5.50 vgross, net Tim Cowles Hdw Co.) dis 10.5  Heacks and Dies dis 20.5  Heacks and Dies dis 20.5  Lightning Screw Plate dis 30.5  Stepses Stome \$8.60 dis 33.5  Ax Stone \$8.60 dis 33.5  Stopse \$8.60 dis 33.5  Ax Stone \$8.60 dis 33.5  No 1. \$8.80 dis 33.5  Stopse \$8.60 dis 33.5  Stopse \$8.60 dis 33.5  Ax Stone \$8.60 dis 33.5  Stopse \$8.	21 to 24.
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Tables \$5.50 % gross, net to the control of the con	21 to 24.
Tables \$5.50 % gross, not to the control of the con	21 to 24.
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Tables \$5.50 % gross, here Tim Cowles Hdw Co.)	21 to 24.  # h 3c 34/2 25 to 26.  # h 3Mc 44/2 27.  # h 23c 4/2
Tables \$5.50 % gross, net to the construction of the construction	21 to 24.
Folished Steel   Hart s	21 to 24.
Tables \$5.0 \( \text{ gross} \) and is 10?  Tables case lots dis 20.  Haceles and Dies dis 20.  Historing Screw Plate dis 10.  State dis 10.  State dis 20.  Hindostan Stone \$\text{ gross} \text{ dis 31.5} \text	21 to 24.
Tables \$5.5 \( \) \$7.50 \( \) \$7.50 \( \) \$7.50 \( \) \$7.50 \( \) \$1.50 \( \)	21 to 24.
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ne ne	Wire straightened and and	U
ne	not less than 2 feet lengths, 28c.	ıd
ne	Twelve cants per a axia 2 feet lengths, special rate	18.
	Brass Rods, No. 8 and larger not less than 2 fet lengths, 39c. Wire straightened and cut, smaller than No. 8, at not less than 2 fet lengths, 59c. Wire and Rods less than 2 fet lengths, special rate Twelve cents per b extra for spooling on 1 b spool	8.
207		
45 9		30 38
10	High Brass Scrap.	
10 9		
70 9	Turnings, Filings and Chips half the price of Scran.	yc
257	days,	y
25 9	TURING -dia so % - "	Th
259	above 3 in	38
35 1	Nos. 21, 22, 23, two cents advance on List for each Number.	48
30 %	Nos. 24, 25, 26, four cents advance on List for each	
60 %	Above No. 26 appeals?	
35 %	Plain, ¼ inch.	5c
1.00	96 12 16	25
64.00	All Mandrel Drawn Tubes, s cents advance on Tiest	15
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4.00	vance on List. Add to 2 cents % cent for each additional cutting under 2 feet. All Mandrel Drawn Tubes under & feet.	
3.00	under 2 feet.	
4.00	All Mandrel Drawn Tubes under ¾ in., 25 cents per	
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	cents, and not above 11, 3 cents w h : over 11, 34 cents	7
	Railway Bars, in Railway Bars, 114 cents # 15	
	STERIA—DUTY: Rars, Ingots, Sheets and Colling valued at 7 cents w m., or under, 244 cents; over, cents, and not above 11, scents w b; over 11, 34 cents w m., and 10 5 ad val. Railway Bars, 154 cents w m. Railway Bars, 1n part Steel, 1 cent w m. Provided that Metal cemented, cast or made from iron by the Bessemer or pneumatic process, of whatever form of description, shall be classed as	,
	Bessemer or pneumatic process, of whatever form or description, shall be classed as	
nd	American Cast Steel.	1
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m;	Spring70	
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gn.	Pine	I
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,	b ; Electro-galvanised Plates, 2c & b : Manufactures	1
éc	of, not enumerated, 35 per cent. ad. val. Bars, Block	1
e e e	Banca	1
60	TIN.—DUTY: Plates, Sheets, Tagger and Terne, i.i.e \( \psi \) \( \text{b}; \) Electro-galvanised Plates, 20 \( \psi \) \( \text{b}; \) Electro-galvanised Plates, 20 \( \psi \) \( \text{b}; \) Manufactures of, not enumerated, 35 per cent. ad. val. Bars, Block and Pigs free. Banca, subject to duty of 10 per cent Banca.  Straits \( \text{b}; \text{c}; \text{c}; \text{b}; \text{b}; \text{c}; \text{c}; \text{b}; \text{c}; \text	1
90	TIN PLATES.	ı
9C	I C 10X14   Prime Charcoal \$6.25 @ 6.50 I C 12X12 6.50 @ 6.75	
.	I C 12X12 " 6.50 @ 6.75	
p. of id	10   17   17   18   18   18   18   18   18	
ld	I X 12X12 8.50 @ 8.75	
t.	DX 1256X17 00 5.74 68 6.07	
	For each additional X add	
Se	Best, 2d quality, Ordinary,	
re	I C 10X14 84.75 5.40 5.05 @ 5.25	
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90	C 20X28 12.25 6 11.50 (# 11.75 10.00 (# 11.50	
e	X 20X28 (d) 16,00	
e	I C 14x20 M. F. Brand	
3	SOLDER NO. 1, 90 @ 100 ' NO. 2, 8540	
	DC   125/237   5.74 on 0.07     For each additional X add	
9	Annerican, eash Auerican, eash Seggen Port from Lehigh Ore Seggen Port From Lehigh Ore Seggen Port From Lehigh Ore Seggen	
	Lehigh, on spot	
	AINCDUTY: Pig or Block, 1.50 \$ 100 hs. Sheet,	
e l	Sheet. Cask	
c .	Sneet. Cask	
- 1		
6	Donor Stock Ald Motols Co.	1
9	Paper Stock, Old Metals, &c	1
. 1	-	

6	Bergen Port from Lehigh Ore	
C		6
2	D 04 - 1 011 W 4-1- 6-	
0, 0,		
ł	(Dealer's Selling Price.)	1
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	No. 2.   254   6   1   2   1	
	No. 2. 2 4 25 Seconds 596 615 Mixea wooless 224 63	1
	Soft woolens 9 16	1
	Jute Butts	1
,	Waste paper and scraps	ı
	Gunny bagging	1
	Grass rope	1
	Hard White Shavings, No. 1 3½ @	1
	White Shavings, No. 2	1
	Kentucky bale rope	1
	Book Stock316 69	ı
	" Heavy 3 4 4 " Light 1½ 6	1
		ı
	Pure Manilas	1
	Prints. 134 @ Pure Manilas and Hardwares. 256 @ I Commons. 40 @	١,
	Binders' Board Cuttings	П
l	Woolen Tailor Clips	1
I	Old Metal.	ı
l	Copper, heavy	ı
	Copper Bottoms	ı
	Brass, light	
l	Heavy Composition 13 4 Old Lead, solid 34 6 Tea Lead 27 9 24	
I	Tea Lead	
l		
I	Powter No 1	
	Light from   per ton   10.55	
	Grate Dars	
	Paints, Oils, &c.	H
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	Walnes.	

Black Lamp, Coach Pa Ordinary Ivory Drop, fair best

Black Paint. in oil...... Blue, Prussian, fair to be

oAT	Blue Chinese dry	F
.12	"Ultramarine	1
-43 -JK	Brown, Spanish	1
-48	Commission Dyke	1
-50	Green Chromes	
.53	11 to the de	1
.53	Paris Paris	1
.6x	" in oil 4 " 200" # 200"	13
.57	Iron Paint, Bright Red	1
-73	Hed.	6
.00	Brown	
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-90	oround in Out, Bright Red # 15 556	١.
100	44 44 Rrown 10 % 4120	н
8.3	Purple. Brown Packet Brown Packet Pac	I
md.	Mineral Paints14 @ 40	
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000	reu Leau, American	1
nd	" Venetian (N. C.) dry	I
	in oil asst'd cans, rade before the	97.00
es.	" Indian dry	-
MS.	Orange Mineral         4.8           Red Lead, American         1.6           ** English         3)56 gold           ** Venetian (N. C.) dry         2.105 d 21.70           ** Indian dry         3.505 d 21.70           ** Indian dry         40 126           ** Rose Pink         1.0 d 13c           ** Burnt         4.6           ** 'in oil         10 d 15c           ** 'in oil         10 d 15c           ** Burnt         4.6           ** Burnt         4.6           ** Umber, Burnt         4.6           ** Burnt         4.6           ** Burnt         4.6           ** Burnt         4.6           ** Baw'         3.5           ** Baw'	
	Stenna, American, Raw	
136	the formation of the second se	
.38	Raw 6	
	Umber, Burnt.	-
IIC	" in oil 9 @ 12 @ 16c	
130 150	. Raw	
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ty	Finglish Commession Control of the C	6
	Trieste	ti
Th.	Trieste	-12
38	American, Common.  White Lead, American, pure dry	11
-48	" in oil	36
- 1	Vallow Ochra Franch primein bbis. 2 @ 21/6	26
. 1	is in oil east'd care trockers to	30
	" Vermont in casks rice	90
.65	Yellow Chrome	30
.05	in oil	36
.55	Zine white, American No. 1, dry70	
	Franch (Paris)	
	in oil @ 100	-
50		_
50	Oils.	6
30	Linseed, Raw, in casks and bbls. \$\P\$ gal. 6.c & 63c \\ Bolled. \$\psi\$ by & 68c \\ Bleached \qquad \text{While}. \$\pq \text{gal.} \qquad \qquad \text{gal.} \qquad \text{gal.} \qquad \text{gal.} \qquad \qquad \text{gal.} \qquad \qquad \text{gal.} \qquad \qqquad \qqqq \qqqq \qqqq \qqqq \qqqq \qqqq \qqqq \qqqq \qqqq \qqq \qqqq \qqq \qqqq \qqq	11
. 1	Bleached Whole	10
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18 x 4 to 10 x 24.  18 x 25 to 20 x 30.  11 x 36 to 24 x 30.  20 x 36 to 24 x 30.  20 x 36 to 24 x 36.  20 x 36 to 30 x 4.  20 x 36 to 30 x 50.  20 x 36 to 30 x 15.  21 x 14 to 16 x 24.  21 x 14 to 16 x 24.  21 x 26 to 24 x 30.  22 x 36.  23 x 36 to 30 x 44.  24 x 36 x 36 to 30 x 44.  25 x 36 to 30 x 44.  26 x 36 to 30 x 44.  27 x 36 x 36 to 30 x 44.  28 x 36 x 36 to 30 x 44.  29 x 56 x 46 to 30 x 44.  20 x 56 to 30 x 56.	8.75 14.95 13.40 14.75 16.25 18.75 18.75 18.75 19.40 21.50 2	8.20 10.50 11.50 12.25 13.75 15.00 16.76 18.00 19.50 24. \$11.00 13.75 17.75 19.25 20.75 23.00 25.00 25.00 27.75 30.00 32.60	7.50 9.74 10.00 11.24 13.00 15.00 15.00 15.00 16.00 18.21 10.00 16.32 10.25 21.24 22.24 24.75 27.00 30.24	41 b.
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No. 235.)

# INTERNATIONAL EXHIBITION.

PHILADELPHIA, 1876.

The United States Centennial Commission has examined the report of the Judges, and accepted the following reasons and decreed an award in conformity therewith.

PHILADELPHIA, November 8, 1876.

### REPORT ON AWARDS.

Product: Iron, Brass and Steel Screws, Tire and Stove Bolts, Rivets. Name and address of Exhibitor: American Screw Company, Providence, R. I.

The undersigned having examined the product herein described, respectfully recommends the same to the United States Centennial Commission for Award, for the following reasons, viz: Being of a quality nearly approaching perfection, showing the highest attainment in this branch of manufacture. G. L. REED. Signature of the Judge.

Approval of Group Judges.

Daniel Steinmetz, Jas. Bain,

G. L. Reed. J. Diffenback J. D. Imbeden,

Dav. McHardy, Chas. Staples,
A true copy of the record. Francis A. Walker, Chief of the Bureau of Awards. Given by authority of the United States Centennial Commission. A. T. Goshorn, Director-General.

J. L. CAMPBELL, Secretary.

J. R. HAWLEY, President.







After forty years' experience we offer to the trade our Centennial Screws, patented May 30, 1876, as the best we have ever known.

The method of manufacturing is also patented, and we are changing our machinery as fast as possible, to manufacture the improved article only. To introduce them, they will be sold at the same price as the old style screw.

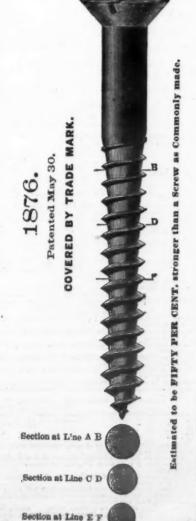
The new screws will be packed in manila colored boxes with the new label covering end of box, and enlarged figures showing plainly contents.

To distinguish this screw we have adopted a trade-mark, which is also

The accompanying engravings show the progress of making screw from the old blunt point to style now adopted.

Experience has shown that the weak point of screws, as formerly made, is at the heel of the thread, where all

1846. Section at Line A B



the strains of forcing the screw into the wood naturally concentrate.

To avoid the sharp angle existing in the old style of screws has been the aim of all manufacturers, but every expedient hitherto adopted has proved as objectionable as the evil complained

It will be seen in our new screw that not only is the sharp angle avoided, but the strength very much increased, as illustrated. See sections at lines.

### CLAIM.

"A Pointed Wood Screw having the outer periphery of the thread upon its body cylindrical, while a portion of the body below the thread and near the neck is conical, the remainder of the body to the point being cylindrical, and yet having all the thread brought to an edge of a constant angle, without jogs in the paths between the threads, substartially as described."

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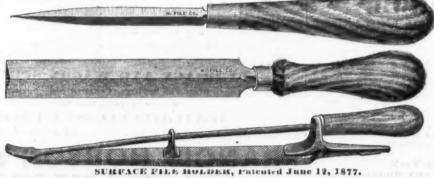
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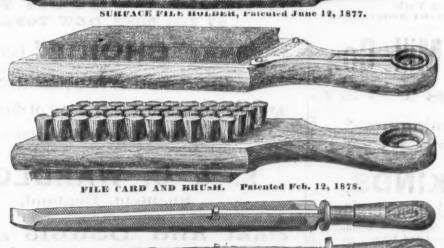
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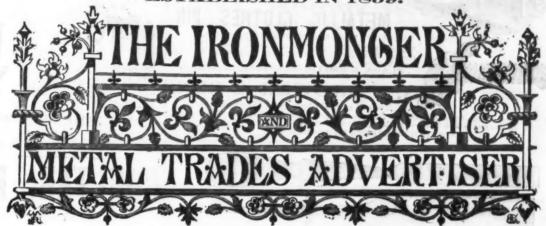
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SPECIAL FEATURES.

Notes of Novelties.—This is a department of the journal always watched with interest by the trade, as it contains a week, of the novelties which manufacturers and inventors are introducing to the notice of the trade. These articles are freely illu Special Correspondents.—The Irosmonger has a deserved reputation for its special correspondence from all the princ and manufacturing centers. The writers are gentlemen holding important positions in the districts with which they are connect for acquiring information specially suited for the columns of the Ironmonger The Week, Legat News, Trade Notes, B. Notes, Calonial Juilinus, Merchants' Circulars, Imports and Experts. &c. are each departments of the journal, cormatters of direct interest to the Iron, Hardware and Metal Trades. In addition to the above, there is a carefully classified list of Editorial Notes, French, Belgian and other Special Correspondence.

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to the Ironmonger and Metal Trades' Advertiser, with which is sent every fourth week the Foreign Supplement (see below), may commence from a late, but are not received for less than a year complete. The rate is \$5 per annum, inclusive of postage to any part of the world outside Great Brita for every subscriber is presented, free, in the course of his year, a handsome and useful Ironmongers' Diary and Text Books, a work sold to n

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SPECIAL ISSUES.

In April and October of each year there is published a Special Issue, the circulation of which is not less than Twelve Thousand (12,000) copies.

THE IRONMONGERS' DIARY AND TEXT BOOK.

This is an annual, presented free to every Subscriber to the IRONMONGER AND METAL TRADES' ADVERTISER. It contains a large number of ruled skeleton pages for diary and other entries, and in addition much useful reference information, varied from year to year. It is handsomely bound in cloth, gilt; and as copies are used in thousands of establishments for a whole year, it is obviously a medium of exceptional value for advertisements. Sold to non-subscribers at 75 cents.

# THE FOREIGN SUPPLEMENT

Is published every fourth week in connection with the extensive and world-wide circulation of the Ironmonger itself. The dates of its publication in 18.9 will be as follows:

JANUARY 11, FEBRUARY 8, MARCH 8, APRIL 5, MAY 3 and 31, JUNE 28, JULY 26, AUGUST 23, SEPTEMBER 20, OCTOBER 18, NOVEMBER 15

DECEMBER 13.

This Supplement is published in

FIVE LEADING COMMERCIAL LANGUAGES

of the world, including English, and is sent to all the countries where they are spoken, thus placing the contents of the *tronmonger* not only within reach out in the native language of eighty millions of *German*, forty-two millions of *French*, twenty-eight millions of *Italian*, and fifty-one millions of *Spanish* speaking people; or, in all, over two hundred millions of inhabitants in the principal nations where the best purchasers of manufactured goods are to be found. Advertisements are inserted in any language at the following

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THE WHOLE FOREIGN HARDWARE TRADE,

so far as our experience of twenty years is concerned, will be covered by The Formus Suprement at least twice a year. Thus a Price Last or Asteriarment inserted in the Formus Suprement is a strikingly powerful and most efficient way of publicity, not to be compared with any of the other ordinary channels of communication.



# Barnes' Adjustable Pipe Tongs.

DIPLOMA AWARDED BY THE AMERICAN INSTITUTE FAIR, AT NEW YORK, NOVEMBER, 1878. MANUFACTURED BY THE

MANSFIELD ELASTIC FROG CO., New Haven, Conn. Send for descriptive circular.

THE PERFECT SASH TIGHTENER AND LOCK.



Manufactured entirely from Malleable Iron, Burglar Proof, Anti-Rattling, Draws Sash to Exact Center. No Springs to Get out of Order.

The Best in the Market.

METALLIC CLOTHES PIN

Will securely hold any article, from a silk handkerchief to a carpe.. No article can be blown away. Does not soil the cloth CLARK & SMITH, Patentees, Chester, Orange Co., N. Y.

I. BROWER & SON. 286 Greenwich St., New York, Who keep a general assortment on hand for the country trade. Jowett's Horse Rasps, 14, 15 and 16 inch, Maharay's \$10 Tire shrinker, Helier's Rasps. Send for Circular. SPECIAL DISCOUNTS TO JOBBERS.



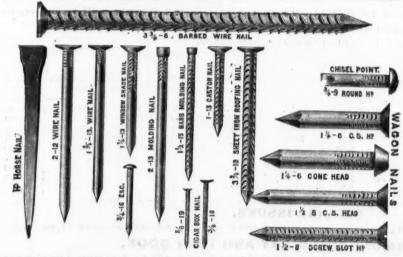
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Shank, Socket Firmer and Socket Framing Chisels,

PLANE IRONS.

Gouges of all lengths and circles beveled inside or outside. Nail Sets, Scratch and Belt Awls Caise Handles of all kinds. Carving Tools. Also small Boxes of tools of best quality.





# HORSE SHOE & WIRE NAILS

Steel, Iron and Brass Nails and Barbed Nails

Of every kind. Roofing and Moulding Nails, Escutcheon Pins, Chair and Caster Nails, Cigar Box and Window Shade Nails, Wagon and Boat Nails. Manufactured by

Cleveland, Ohio.

NORTHWESTERN HORSE NAIL

Hammered & Finished Horse Nails.

We offer our Finished Nail to the trade with the confidence that it has no equal in the market. It is the genuine "Northwestern" Nail, Finished, and we give it our unqualified guaranty.

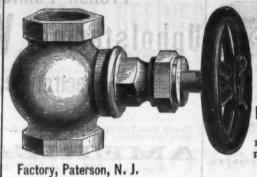
Office and Factory, 56 to 68 Van Buren St., Chicago,

A. W. KINGSLAND, Secretary.

Our agents, Graham & Haines, 223 Chambers Street, New York, carry a full line of our goods, and will be pleased to serve you at Factory prices.

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COCKS AND BRASS



WATER

and GAS Iron Pipe and Fittings. PLUMBERS' MATERIALS

New Illustrated Catalogue and Price List sent by express to the Trade on ap

56 John Street, N. Y.



HAND FREEZER. 2 to 25 qts. \$3.50 to \$25.00





SANDS' TRIPLE MOTION WHITE MOUNTAIN ICE CREAM FREEZERS.

87 Chambers and 69 Reade Sts., New York,

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# BUERK'S Watchman's Time DETECTOR.

Capable of controlling with the utmost accuracy the motion of a watchman or patrolman as the same reaches different stations of his beat. The instrument is complete in itself, portable and as reliable as the best lever watch. It requires no fixture or wires communicating from room to room, as is the case with the ordinary watch clocks. A small, inexpensive stationary key is alone required at each station. The instrument will, in all cases, be warranted perfect and satisfactory.

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J. E. BUERK, Proprietor,

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ing universal satisfaction. A few moments' trial will show its merits, and parties once using it are unwilling to do without it. Its sales are fast in-

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Either old or new Blinds thus fitted can be opened in the usual way or used as an awning at pleasure.

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THE "OLD RELIABLE" UNIVERSAL Clothes Wringer.



Improved with Rowell's Double Cog-Wheels or oth ends of each roll.

Over 500,000 sold!

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### Cast Iron Pipe FOR WATER AND GAS.

Lamp Posts, Valves, &c.,

Mathew's Pat. Anti-Freezing Hydrants. 400 CHESTNUT STREET. The Patent Combined

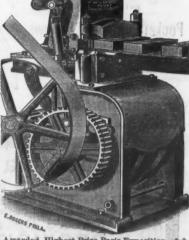


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Masterpieces Centennial Exposition, 1876."





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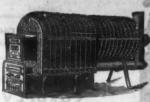
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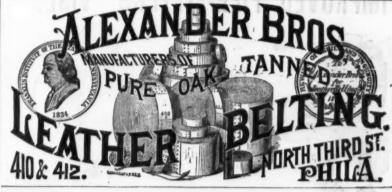
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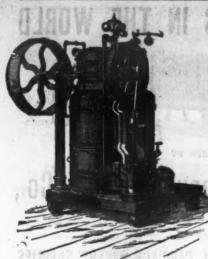
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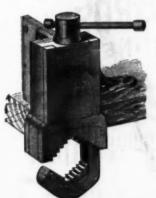




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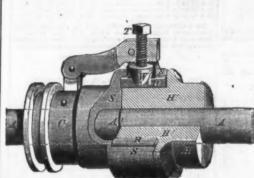
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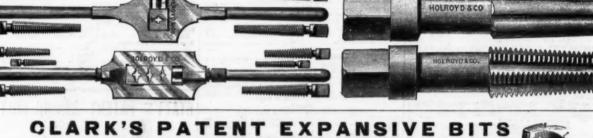
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Common die so
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Shevels O Ames
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2	(Corrected Weekly by Mesers. R. Selless & Co.)
3	Tin Pinto.  (c. 10214, Best Char. 1725   DX, 125x17, B. Char. 5  (x. 10234,   DX, 125x17, B. Char. 5  (x. 10234,   DX, 125x17, 112  (x. 12212,   DX, 125x17, 112  (x. 12212,   P. 5   DX, XX, 125x17, 15  (x. 1422),   P. 5   DX, XX, 12, 15x17, 15  (x. 1422),   P. 5   DX, XX, 12, 15x17, 15  (x. 1422),   P. 5   IX, 30236, 12  (x. 1422),   P. 5   IX, 30236, 22  (x. 1224, 1422),   P. 5   IX, 30236, 22  (x. 12x, 14214, 135   IX, 10214, sheat Coke, 12  (x. 12x14, 12x14, sheat Coke, 12  (x. 12x14,
6	IC, 10x14, Best Char., 1725 DX, 1216x17, B. Char. 5
۱	IC. 12x12, " 7:25 DXXX, 125cx17 18 2
1	(X, 12x12, 9.46   DXXXX, 1.36x17, 153
1	IX. 14x20. " 1725 IX. 20x28. " 1174
Н	[XX, 14x20, " 11 25   1XX, 20x26, " 21-54
1	1XXX, 14X30, B. Char. 13.5   IC, 14X30, Best Roof.
1	IC. 12x24. " 75 IC. 20x28. "
1	IX, 1/x 4, " 9 5   1X, 20x28, " 17-15
	1C, 14x14 " 18 25   1C, 10x14, Best Coks., (*)
П	IXX, 14x14, " 10 15 1C. 10x30, "
	DC, 1834x17, " . 7:25   Pr box 225 sh's Safe Tin 6:5
1	Sheet   Fou.   Sheet
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1	Sheet Irou.   Comm. Sin't.a.   brit. Sm'th. Sm'th
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ı	" 2 " 14c " 4 " 74se
L	Copper   Street   S
ı	10, 11 & 12 lbs. **
Ł	" s and 9 ths. "
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L	Planished, 14x48, 14 and 16 oz
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L	Metallic Bottoms160
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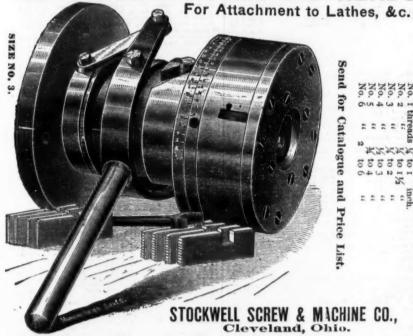
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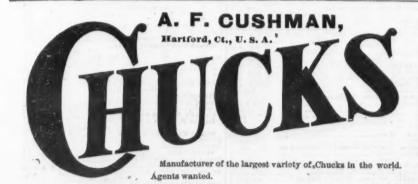
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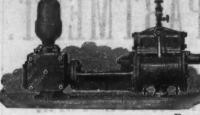


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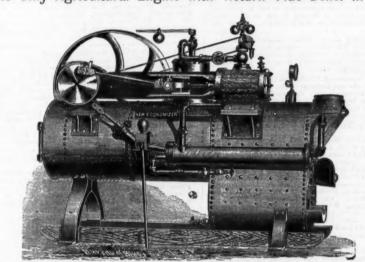
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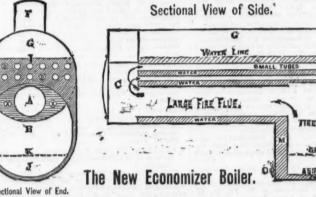


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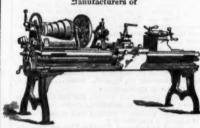
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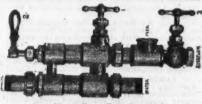
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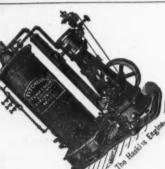
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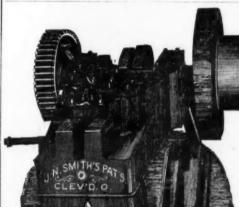
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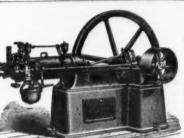
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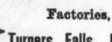
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